OCTOBER, 1945

Industrial FINISHING

lished Monthly in the Interest of Product Cleaning and Painting

LIBRARY
OCT 23 1945
DETROIT

TECHNOLOGY DEPT.

Our Days of Waiting Are Over...

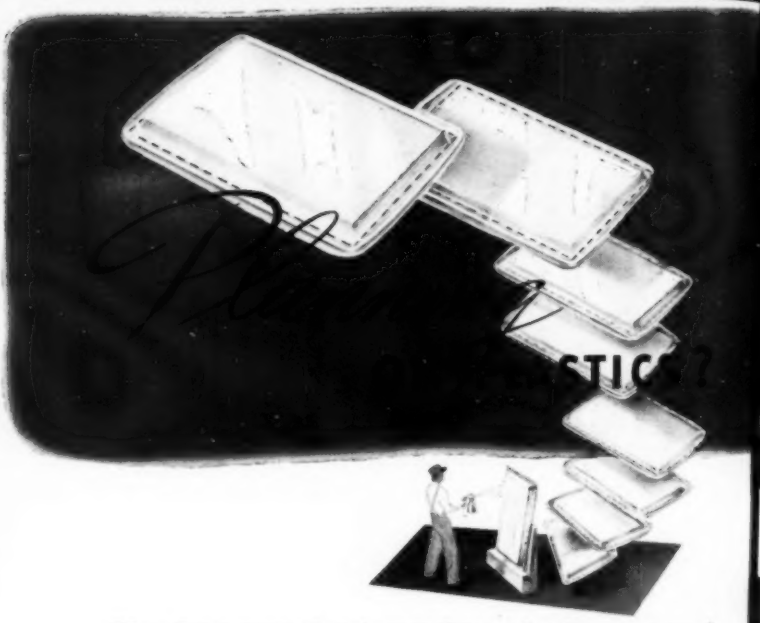
The Victory Loan drive which starts October 29th signifies finis for World War II. We've all supported and put across the previous loans — now let's finish this one in a hurry.

Here at Advance our days of waiting are also over. Postwar is no longer something to dream about. This is it. Now we'll soon be in position to offer once again the genuine, reliable O'SHELAC — one of the most popular finishing materials for over 30 years. Watch for future announcements.

ADVANCE PAINT COMPANY

Manufacturers of Wood & Metal Finishing Materials

INDIANAPOLIS, INDIANA



Give low-cost plastic products the beauty and serviceability of solid plastics with Roxyn 11CP

Sturdy, low-cost plastics are just the thing for a wide variety of products. However, this type of plastic is frequently dark and non-uniform in color instead of having the light colored, bright finish so many applications require.

Take refrigerator door pans made of low-cost plastic board, for example. Giving them a bright, colorful surface is easy with ROXYN 11CP, coating for plastics. It heat cures quickly to a hard, mar-proof finish. Plastic on phenolic plastic makes a perfect bond . . . which stays on permanently. It withstands impact and resists staining by food acids and general kitchen abuse.

Refrigerator applications are only one example of how ROXYN 11CP greatly broadens the use of low-cost molded plastics . . . speeds production . . . lowers costs. If plastics are part of your production planning, it will pay you to investigate its possibilities. Write to Department 051 for complete information.

ROXALIN *Flexible* FINISHES
INCORPORATED
ELIZABETH, N. J. • NEW JERSEY

NEW PRODUCTS *for finishing* ALUMINUM

ALUMOX A process for passivating aluminum alloys to resist salt spray and to form a base for organic finishing. The Alumox finish itself is a pleasing grey-green.

ALUMON A process for electroplating upon aluminum. By means of the Alumon dip, aluminum alloys can be prepared for copper, silver, or cadmium plating.

CLEANER-E An etching type aluminum cleaner that gives a fine, beautiful controlled etch finish. An ideal cleaner for preparing aluminum for painting, plating or anodizing.

CLEANER-NE A non-etching type alkali aluminum cleaner for degreasing buffed or bright aluminum alloys without etching or tarnishing. A safe cleaner for all aluminum.

Enthone

THE ENTHONE COMPANY · 440 ELM STREET, NEW HAVEN 2, CONN.

Metal Finishing Chemicals and Equipment

ANNOUNCING BINKS NE

"SEND ME COMPLETE DETAILS"

"ANOTHER FIRST"

To be sure of the best in Spray Painting and Finishing Equipment, remember to ask for BINKS

NE

MODEL 19 & 19V SPRAY GUNS

Here is a spray gun that will delight any production finishing man. It is light, strong and versatile. It gives smooth uniform finishes with all types of materials. The Model 19 is already a favorite in the automobile, aviation, furniture and porcelain enamel industries where fine finishes and economy are essential.

HAS MANY ADVANTAGES

- **Easy to operate:** The Model 19 weighs only 1 lb., 7 oz. The grip fits comfortably into the hand, reduces fatigue to a minimum. All controls are conveniently located at the back of the gun. The spray pattern is quickly adjustable from round to flat with all widths in between.
- **Easy to clean and repair:** This gun has very few parts. It is easily taken apart and re-assembled.
- **Built for long service:** Every part of this gun is made of that material which will give the best service. The body is aluminum. The air nozzle is bronze. The fluid nozzle is a special hardened steel. The entire gun is heavily nickel-plated. A hardened plate where the trigger contacts the air valve stem prevents wear at this vulnerable point.
- **Special features:** The Model 19 has a large air passage through the gun, which results in better utilization of the air. The needle valve is easily adjustable. The nozzle is of the self-centering type, designed on the tapered seat principle. Air cannot leak back through the retainer ring. The air valve is of the superior cartridge type. Hose connections are standard.
- **Special for the Ceramic Industry:** Model 19V is a special adaptation for ceramic finishing. It is identical to Model 19 with the exception of the material nozzle and needle valve which have Tungsten carbide inserts to protect them from the severe wear of the abrasive materials and to give the gun long life.

WRITE TODAY FOR COMPLETE INFORMATION

BINKS MANUFACTURING COMPANY

3114-40 CARROLL AVENUE • CHICAGO 12, ILLINOIS

NEW YORK DETROIT SAN FRANCISCO PHILADELPHIA CLEVELAND PITTSBURGH
ST. LOUIS MILWAUKEE BOSTON LOS ANGELES SEATTLE WINDSOR, Ontario, Canada

Let us get you out!

Rely on Reliance

If finishing problems are swamping you—call on Reliance to get you out from under them. For when finishes are custom-built by Reliance they wear better, look better and are more economical. Reliance has the laboratories, imagination, resourcefulness and experience . . . years of specialization in the finishing field. Send your problems to us. Reliance field service is at your command.

RELIANCE VARNISH CO., INC.

TWENTY-FIRST YEAR OF PUBLICATION

Industrial FINISHING

W. H. ROHR, Editor

Vol. XXI, No. 12 OCTOBER, 1945 $2.00 a Year

Contents of This Issue

Random Comment on the Industrial Scene 6
Automatic Spray Painting 36
Roller Coating 49
Planning A New Production Layout 52
Our Pattern for Reconversion 62
The Care and Maintenance of Hand Fire Extinguishers 72
Finishes for Soft Leathers 80
Wood Finishing Procedures—II 84
Letters from Readers 94
Questions and Answers 104
Materials; Supplies; Equipment 114
Booklets; Catalogs; Circulars 122
Editorial 128
"Classified Advertising" Section 141
Index to Advertisers 144

To Avoid Oven Explosions 46
Synthetic Wax Available 46
Long Stored Adhesive Tape May Be "No Good" 46
American-Marietta Announces Important Appointments 50
Oakite Victory Conference on Product Cleaning Methods 50
Course in Small Business for Service Men 50
Industrial Oven Eng. Co. Opens Branch in Chicago 60
Hercules Expands Plant 60
Reliance Varnish Co. to Build Complete New Plant 70
Rogers Paint Products, Inc., New Name of Old Firm 70
Harry Deuber, Jr., Joins Acme White Lead 70
Our Reconversion Start 74
Paul Hexter Returns to Arco 82
Designer Takes in Associates 102
Seghers Directs Paint Sales in N. Y. for P.P.G. Co. 102
Mid-West Abrasive Co. Moves Offices into New Plant 102
To Train Leaders for the Furniture Industry 102
Color Aids Workers 112
New Product Designs to Attract Women 112
Zinc Chromate Primer 126
Wesley Cassell Joins Lea 134
New Fire Hazards 135
Receives 5th Army-Navy Award 137
Reliance Offers New Service to the Trade 137
New "Alcohol" Improves Finishing Materials 138
Quality Control Testing Service 140
Corrosion Engrs. Meet in May 140
Misrepresentation Alleged on Certain "Plastic Paints" 140

Owned and Published by
Practical Publications, Inc., 1142 N. Meridian Street, Indianapolis 4, Ind.

Eastern Representative: C. A. Larson, 254 West 31st St., New York 1, N. Y.; Phone Penna. 6-9049

Road To War? — While the United States is entitled to its fair share of world trade, warns Joseph P. Sheridan, responsible business men must remember that trade is a breeder of world wars. Sheridan, an American who has resided in Egypt since 1919, expounded that sobering thought in a recent talk before New York's Export Advertising Association.

"It's up to American business to realize that the world is not our oyster exclusively," he added. "A too-aggressive policy that would freeze out exports of other countries which depend upon world trade for their national prosperity would be disastrous."

Sheridan referred particularly to such countries as the Netherlands, Belgium, Denmark, Sweden and the reconstituted Germany, as well as Great Britian. The last-named, he emphasized, will need at least 50% increase over her pre-war exports in order to survive.

* * *

Contrary Opinion—An interesting observation on world trade, which appears to refute the views reported above, was made in Manhattan by two business men from Calcutta. The visitors — Earl E. Isaacs and Manharai H. Chawda— underscored the fact that many former important export nations will be unable to furnish merchandise for a long period ahead.

Thus, they point out, the United States has an excellent opportunity to increase its trade with India and other countries. You may care to learn of the commodities which are particularly needed. Messrs. Isaacs and Chawda list refrigerators and other home appliances first. Among other products vitally needed by their country are chemicals, glassware, air-conditioning machinery.

* * *

Wanted: A Policy—We constantly hear sharply divergent views on the question of whether this country is facing a period of inflation or deflation. Some timely comments on this all-important subject are offered by Dr. Jules Backman of New York University. He reminds us that the two terms are not employed to describe diametrically opposite conditions.

"**Inflation** is used to describe a condition of rising prices," declares this economist. "**Deflation** apparently is used in the sense of unemployment." Some government agencies, he contends, are emphasizing one prospect, while others picture the opposite condition.

The key danger, according to Dr. Backman, is that Washington will embark upon great large-scale spending programs in order to reduce the unemployment facing us in the months ahead. This would aggravate the pressure for higher prices, he insists. "In that event," this expert concludes, "the cure will be worse than the disease!"

* * *

Atomic Auto? — Predictions about the peacetime use of atomic energy are now a dime a dozen. But a thoughtful indication of what may lie ahead is offered by William B. Stout, past president of the Society of Automotive Engi-

(Continued on page 9)

BLEACH "WOOD-WHITE"

New - Revolutionary!!

- The newest and most powerful Wood Bleach ever developed.
- For use on any wood and most exceptional for Mahogany.
- It REALLY BLEACHES WOOD WHITE!!
- Eliminates blistering problems entirely!!
- ODORLESS and easy to handle.
- Available without priorities or ratings.
- Prices slightly lower than former types.
- Order promptly. Complete instructions printed on labels.

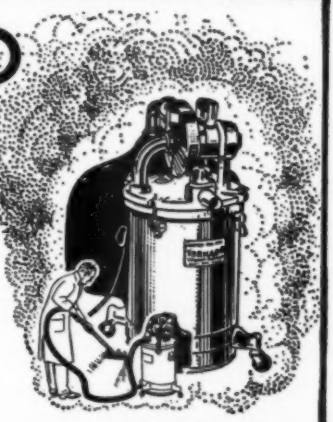
Get BLEACH "WOOD-WHITE" today!!

V. J. DOLAN & COMPANY, Inc.

Manufacturers of "Unquestionable Quality" INDUSTRIAL FINISHES,
Lacquers · Sealers · Synthetics · Stains · Fillers · Thinners

1830 N. Laramie Ave. Berkshire 0100 Chicago 39, Ill.

TORNADO
settles your DUST *problem*



NOTHING means the "finish" of dust—except regular cleaning with the TORNADO which gets rid of it with its powerful suction, large capacity and easy portability. Quickly picks up dust, dirt, flux, etc.

Equipped with attachments for cleaning everything — floors, walls, ceilings, overhead pipes, work tables, etc.—TORNADO makes quick work of clean-ups. Take it to the job!

Write for details and FREE TRIAL Offer

TORNADO

BREUER ELECTRIC MFG. CO.
5094 N. Ravenswood Ave., Chicago 40

THE DIFFERENCE IS *CLEAR!*

PERFECTION FLAT FINISH Free From All Distortion . . . Transparent As Clear Glass

● Just as PERFECTION FLAT FINISH shows the beautiful girl in all her loveliness, so does it reveal the full beauty of wood grain and stain when applied to furniture.

PERFECTION is as unlike other flat finishes as day and night. Unique product of synthetic chemistry, it contains no beauty-masking stearates or other flattening agents. That's why PERFECTION is *always perfectly clear, always free from distortion*—why it adds dollars to the value of your products.

For convincing proof, try PERFECTION in your own plant. Fast drying, water-proof, liquor-proof—free from orange peel—PERFECTION FLAT FINISH is available in a full range of beautiful and durable sheens.

PERFECTION
PAINT & COLOR COMPANY
Indianapolis, Indiana

neers and research director of the Graham-Paige Motors Corp.

Eventually, declares Stout, power units no larger than a man's fist may power the automobiles of the future. "But," he adds cautiously, "I expect to see gasoline used as long as I live." The celebrated engineer believes that 20 years may be required to harness atomic power for motor vehicles.

* * *

Helping Small Firms—A promising experiment is under way at the Ford-Ferguson tractor plant in Detroit. In brief, it is an attempt to offer the advantages of big business ties to many small American manufacturers.

As outlined by John W. Love in the Scripps-Howard newspapers, the Ferguson company designs the implements to go with their tractor, supplies the dies and jigs, and contracts with the manufacturers to market the product through the Ford-Ferguson dealers. Also in addition, they will furnish, upon request, cooperation in financing, industrial engineering, mass purchasing and other services.

Ar Mr. Love sees it, the project may prove to be the answer "to many of the dilemmas of small plants which must compete with concerns able to afford expensive research." In any event, the entire undertaking appears to be worth watching.

* * *

No "Dream" Typewriters — Although newspaper feature writers have been painting lurid pictures of the coming revolutionary typewriters to be made of plastics, magnesium and aluminum, reports from within the industry indicate that there will be few changes in design from the 1942 models for a year or two, at least.

It is true that all manufacturers

Government-owned Equipment

MUST BE RUST-PROOFED BEFORE LAY-UP

You are required to rust-proof all Government-owned production equipment immediately upon termination of your war contract.

Only rust-proofing products accepted under Ordnance Specification P. S. 300-4 are approved for this purpose. TECTYL is so approved and there is a TECTYL product to meet every requirement.

TECTYL seals out moisture—protects against rust and corrosion—for as long as two years—indoors and out. A little TECTYL covers a lot of metal.

Write today—tell us your corrosion problem.

TECTYL
STOPS RUST
VALVOLINE OIL COMPANY
431 Main St., Dept. 24J, Cinn. 2, Ohio

Remove.. PRODUCTION LINE DUST · LINT and SAND PARTICLES

TACK OFF THOSE SPECKS

MAKE YOUR FINISH SPARKLE

Crystal
TACK RAG

Speed Up Your FINISHING PRODUCTION LINE with this *Soft Tacky Cloth*

BCP TACKY WIPERS

Industrial Size 18 x 36 Spontaneous Combustion Proof

Exclusively Processed by

Available in GROSS LOTS thru PAINT DEALERS or from the Processor

BAUGHN CHEMICAL PRODUCTS CO.
1308 West Chicago Avenue • • • • • Chicago 22, U. S. A.

SAFEGUARD YOUR SPRAY BOOTHS

Apply Wyandotte Spray Booth Coating *first* for quicker removal later of layers of inflammable paint. It takes only a thin coating to make cleaning easier, speedier, more economical. Write Wyandotte Chemicals Corporation, J. B. Ford Division, Wyandotte, Michigan, for full details!

Wyandotte F-100* will help cut your floor-cleaning costs. Even heavy soil disappears when this remarkable compound gets to work!

*Registered Trade Mark

An Outstanding QUALITY PRODUCT *for 9 Years*

DETROIT *Handy* 'TAC' RAGS

are proud of their War Record. No shipments missed or delayed, always arriving on time to help speed vital supplies.

We sincerely appreciate the outstanding work accomplished by all our Distributors and Jobbers in directing the flow of DETROIT *Handy* 'TAC' RAGS to the War Production Plants urgently needing them.

DETROIT *Handy* 'TAC' RAGS now on peacetime production

At your leading Paint Dealer or write to Manufacturer

DETRO SALES CO.
414-16 N. San Pedro St.
Los Angeles 12, Calif.

in this field are conducting detailed experiments with new materials, but many production "bugs" are still to be overcome. Another important consideration is the matter of cutting costs in the use of the light metals.

* * *

Boom in Radios—A staggering volume of sales in household radios is forecast by Leonard C. Truesdell, of the radio and television division dicts that, in the first full year after resumption of unlimited peacetime manufacture, national retail sales in this field alone will hit a peak of approximately 15,000,000 sets.

This enormous total would represent an estimated retail volume of $600 million in radio purchases. The Bendix survey indicates, for example, the possibility of selling well over one million sets in the first full postwar year in the city of New York alone.

* * *

Important Milestone—One of the significant industrial developments of the decade may turn out to be the new non-inflammable gasoline which has been perfected by the Standard Oil Co. of New Jersey. Since the fuel must be heated to more than 100° F. to produce enough vapors to ignite, the danger of flash fire, ever present in other high-octane gasolines, is eliminated.

Remarkably enough, the new fuel is said to possess the same power as the best high-octane gasoline in use today. Eventually it should be possible to meet the complete demands of all commercial airplanes, at a cost only slightly above the present selling price of 100-octane gasoline.

Many important advantages are inherent in this great forward step.

(Continued on page 136)

V-J Day marked the start of reconversion—and the release of DURANITE from its three-year confinement in war work. Both facts are of vital concern to you, for DURANITE—the high-speed production finish—simplifies your reconversion problem in finishes and it's available now for every end use.

• DURANITE gives you real help in reconversion by its high-speed application, extra durability and distinctive sales appeal. Use it for finishing refrigerators, ironers, stoves and countless other metal products.

DURANITES are plastic-base finishes made in various grades to meet special requirements—come in whites, clear, colors and any desired sheen. They may be applied by spray, dip or roller-coat and can be used with infra-red or convection heat. They cure in minutes!

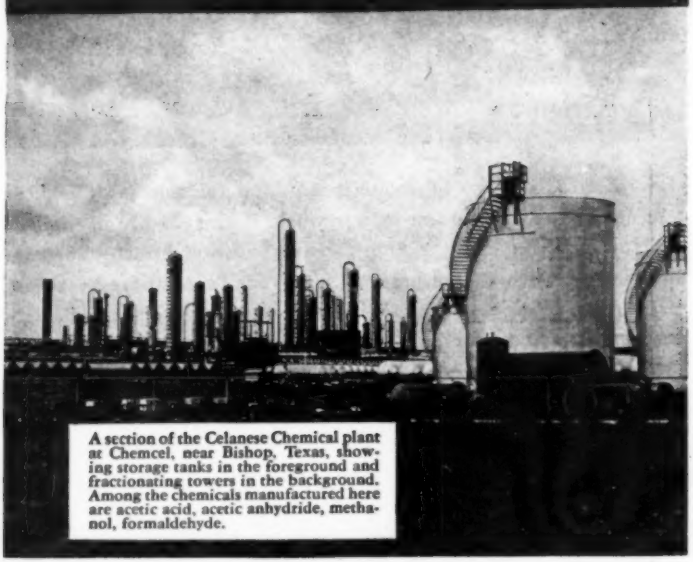
ZAPON
REG. U. S. PAT. OFF.

ZAPON DIVISION
ATLAS POWDER COMPANY

Eastern Sales: Stamford, Conn. • Western Sales: No. Chicago, Ill.

SPECIALIZED PRODUCTION FINISHES... *Doing Tomorrow's Job Today!*

Celanese® Chemicals



A section of the Celanese Chemical plant at Chemcel, near Bishop, Texas, showing storage tanks in the foreground and fractionating towers in the background. Among the chemicals manufactured here are acetic acid, acetic anhydride, methanol, formaldehyde.

CELANESE CORPORATION OF AMERICA

EXPANDED PRODUCTION...
Keyed to Individual Objectives

THE GREATLY expanded production of Celanese Chemicals—the modern plant now operating at Chemcel, near Bishop, Texas—is a milestone in the progress of Celanese research.

The plant will contribute important new volume to the field of organic chemicals. Production will include such standard chemicals as acetaldehyde, acetic acid, acetic anhydride, acetone, formaldehyde, methanol, and butadiene. Located near major sources of natural gas, this Celanese plant has facilities for developing many new organic chemicals to satisfy a wide variety of industrial requirements in many diversified fields.

But an added significance is the greater opportunity afforded Celanese research to assist chemical engineers in reaching advanced and highly specialized objectives.

Meeting new chemical goals with precision—anticipating vitally needed chemical properties are inherent in organic research. And these objectives are the guiding principles of the Celanese research staff. Celanese Chemical Corporation, a division of Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

PLASTICIZERS
ORGANIC PHOSPHATES
LUBRICANT ADDITIVES
INTERMEDIATES
DYESTUFFS

*Reg. U. S. Pat. Off.

TEXTILES · PLASTICS · CHEMICALS

THE LILLY COMPANY
HIGH POINT, N. C.

Same INGREDIENTS . . .

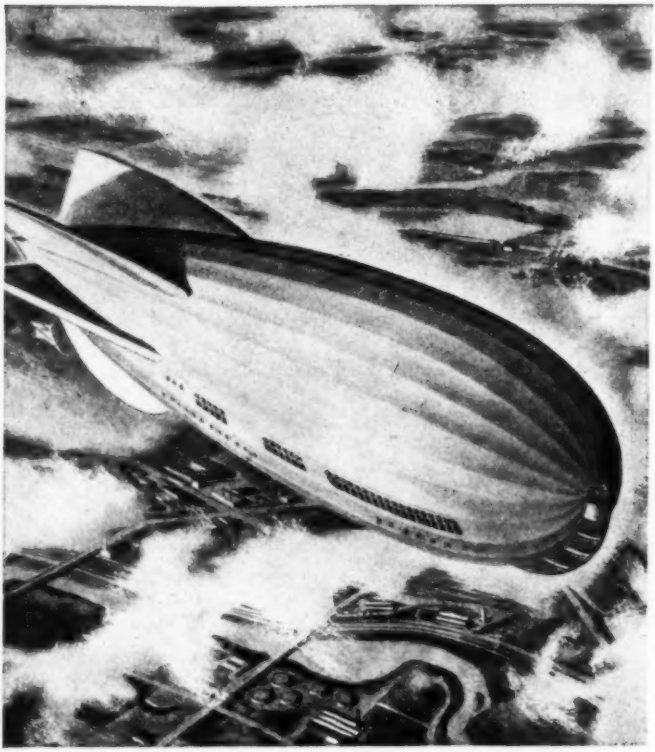
but different **RESULTS!**

★ THE HOUSEWIFE whose cake turned out best had "something" . . . or did something that the other didn't. The same is true in making finishing materials. Our "cooks" have the experience and ability to get the best from the ingredients they have to work with. For 80 years we have been making finishing materials and for 24 years we have been making specific finishes for specific products and purposes. Nearly 15 years ago we adopted the slogan "With the right finish — you'll finish right". For the "right" finish on your postwar products contact any of the Lilly plants listed below.*

*** Indianapolis, Ind.** *** High Point, N. C.** *** Gardner, Mass.**

LILLY VARNISH COMPANY
INDIANAPOLIS, IND.

Do you know...?



Q. Airships are capable of carrying pay loads on non-stop flights of:

☐ 1,000 miles ☐ 5,000 miles ☐ 8,000 miles

A. 8,000 miles. After the war, experts predict that transoceanic passenger and freight service by airship will be established all over the world. Greatly increased capacity and decreased operation costs have been made possible by new developments in engines, metal alloys and construction. One such development—small but important—is the use of Permacel pressure-sensitive tapes in the construction of airship fins and rudders. Permacel cloth tape (Jonflex) and Permacel's companion, Texcel cellophane tape, are applied over rivets and joints on ribs to prevent damage to the fabric from friction.

No. 16 in a series

Q. Biggest pre-war obstacle to shipping machinery overseas was:

☐ Corrosion ☐ Storms ☐ Tariffs

A. Corrosion. But this is no longer true. Today, Permacel moisture-proof cloth tape (Utilitape) is used to seal vents and openings in metal – seals outside moisture, assures arrival of materials in good condition.

Q. What part will color play on streamlined trains of tomorrow?

☐ Speed ☐ Decoration ☐ Insulation

A. Colors give beauty and individuality to interiors and exteriors of railway cars and locomotives. Jobs calling for two or more colors can be done quickly, neatly and economically with Permacel paper masking tape.

Q. The title of this booklet refers to:

☐ Electricity ☐ Tape ☐ Wrenches

A. Pressure-sensitive tape. This booklet shows how Permacel Industrial Tapes help speed production and cut costs all along the production line. Illustrates many uses that may prove helpful in *your* business. Write for your free copy: Dept. IF-16, Industrial Tape Corporation, New Brunswick, N. J.

IMPORTANT: *Our research laboratories are at your disposal for development of special tapes to meet war and postwar needs.*

Permacel Industrial Tapes

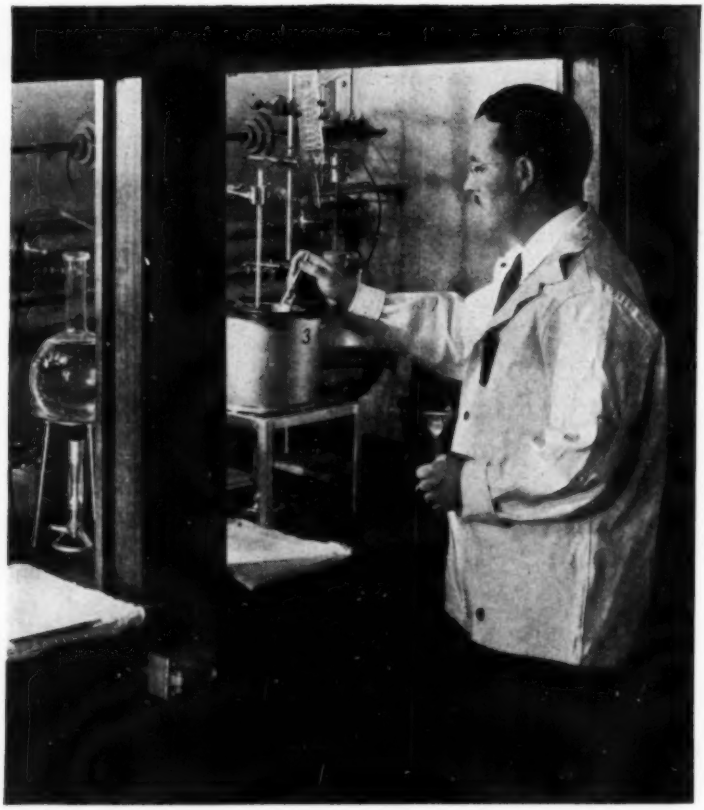
INDUSTRIAL TAPE CORPORATION

New Brunswick, N. J.

Makers of Texcel Tape

"PERMACEL" REG. U. S. PAT. OFF.

To work right and dry right



PITTS
PITTSBURGH

the vehicle must be right . . .

IN PITTSBURGH'S TESTING LABORATORIES, experimental and development work with varnish vehicles is continually in progress. For the desired qualities of better workability, drying and color depend on the proper selection and method of incorporating varnish resins with drying oils.

● ● To prove their right to the "Pittsburgh" label, Pittsburgh Varnishes—in fact, every Pittsburgh Industrial Finish—must pass the most exacting tests ever devised.

● ● Raw materials, such as pigments, oils, resins, solvents and thinners, are constantly under "microscopic" inspection to make certain that the finished products measure up to Pittsburgh's rigid standards of uniformity and high-grade performance. More than that, Pittsburgh's laboratory technicians are always searching for ways and means to develop new and improved finishes.

● ● Pittsburgh research, plus positive laboratory control of raw materials and finished products, is your assurance that you can *continue* to look to us for industrial finishes with a *"plus"* over specifications.

• • •

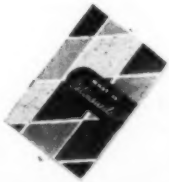
PITTSBURGH PLATE GLASS COMPANY, Industrial Paint Division, Pittsburgh, Pa. Factories: Milwaukee, Wis.; Newark, N. J.; Houston, Texas; Los Angeles, Calif.; Portland, Ore. Ditzler Color Division, Detroit, Mich. The Thresher Varnish Co., Dayton, O.

BURGH *Industrial* **FINISHES**

STANDS FOR QUALITY PAINT AND GLASS

Coat Lamp Bases with *Cellusuede* FLOCK

A coating of Cellusuede Flock on the bottoms of lamps, pen and ink sets, clocks and other appointments for office and home, not only lends the enrichments of brilliant color and a soft velvety "feel" to the bases, but provides the surface on which the articles are placed with ample protection from scratching or marring. A trial application will show you how easily this versatile material may be handled. Both Cotton and Rayon Flock are available immediately in a variety of colors.



Write today for FREE Booklet and Prices.

CP *Cellusuede Products, Inc.*
ROCKFORD, ILLINOIS

Want the *best* WHITE ENAMEL for *Your* Product?

• Throughout industry, countless product finishers *know* from experience that NUBELITE is outstanding among white enamels—for beauty, toughness and durability. A carefully blended combination of liquid plastics, Nubelite provides a protective surface that has important extra resistance to heat, sunlight, grease, salt vapors, excessive humidity, fruit acids and other common enemies of enamel finishes.

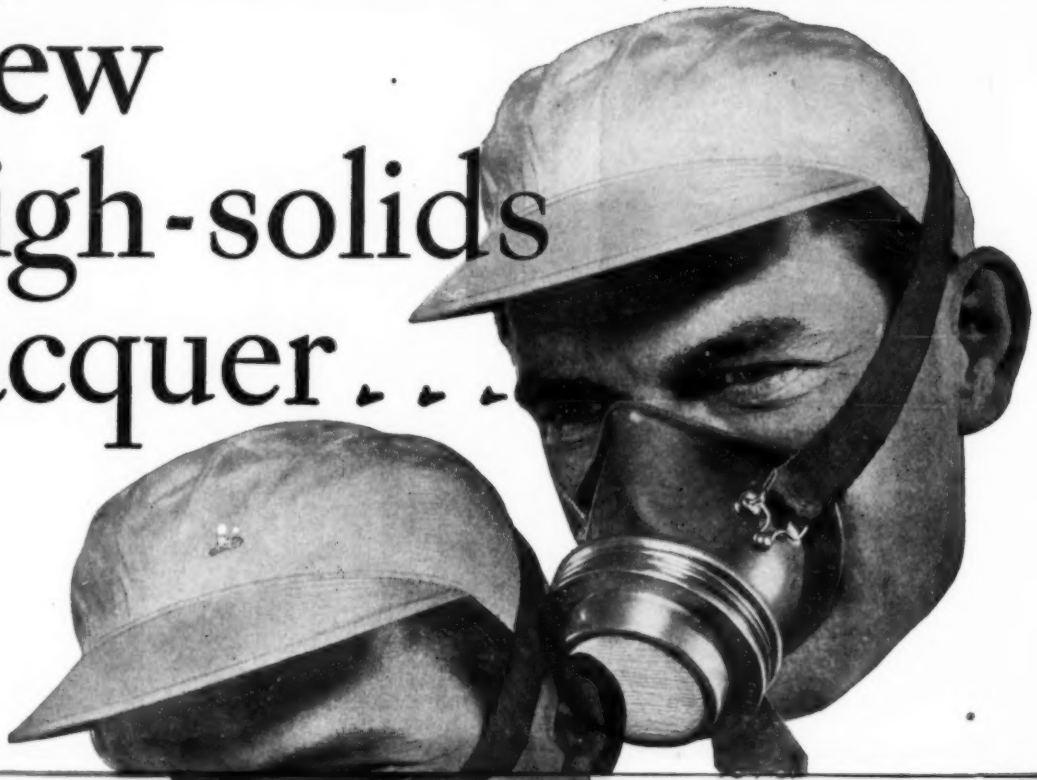
Nubelite is a Time-Tested product of Glidden research that is especially recommended for stoves, metal cabinets, refrigerators and other household appliances. We will be glad to send a Glidden engineer to demonstrate its advantages in your own finishing deparrtment. No obligation. Just write . . .

THE GLIDDEN COMPANY • Cleveland 2, Ohio

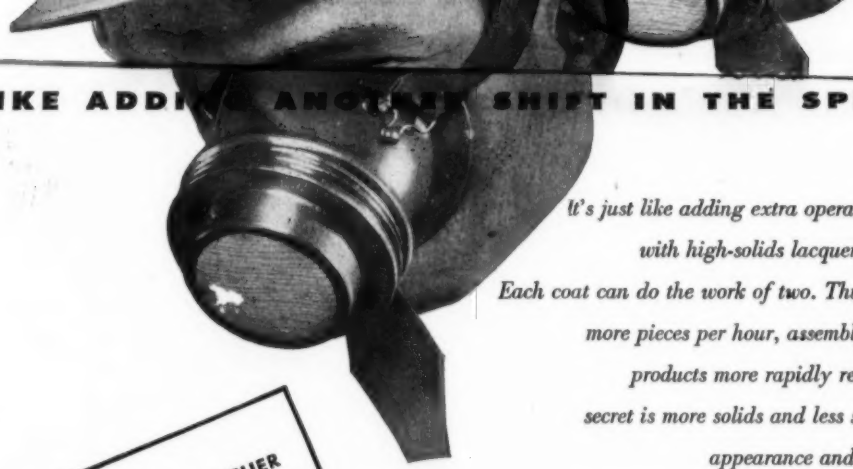
TIME-TESTED

GLIDDEN • *Pacemaker in Paints*

New high-solids lacquer . . .



» LIKE ADDING ANOTHER SHIFT IN THE SPRAY ROOM



»LIKE ADDI[illegible] ANOTHER SHIFT IN THE SPRAY ROOM

It's just like adding extra operators in the spray room—with high-solids lacquers on the production line. Each coat can do the work of two. Thus operators can turn out more pieces per hour, assembly is speeded up, finished products more rapidly released for shipment. The secret is more solids and less solvent. The high-quality appearance and durability of high-solids lacquers is equivalent to that of older types, in coatings of equal thickness. Use high-solids lacquers for production finishes—and save!

ASK YOUR LACQUER SUPPLIER

for details and application data on these new time-and-money-saving lacquers, as they become available. Hercules does not make high-solids lacquers, but concentrates on the production of the highest quality nitrocellulose from which they are made.

CL-55A

HERCULES

Cellulose Products Department

HERCULES POWDER COMPANY
INCORPORATED

928 Market St., Wilmington 99, Del.

Roll up a 600% P

% Production Gain

production achieve-
Machine Tool Industry. From 1939
volume of output increased *over six times.*

...ors on this rapid multiplication of production
...the installation of modern DeVilbiss Downdraft
...that machine tools might move faster
...the finishing line.

...production at Warner & Swasey in Cleveland was increased several times over, a new DeVilbiss Downdraft Exhaust System replaced the old type Spray Booth and handled the increased finishing output with capacity to spare.

Landis Tool Company, Jones & Lamson Machine Company and a host of other machine tool builders contributed to the great war production record of their Industry. Their splendid achievements during one of this country's really critical periods were helped by the accelerated machine finishing that is possible with the greater efficiency and convenience of DeVilbiss Downdraft Exhaust Systems.

This demonstrates a timely method which you can use to speed up your finishing operations in filling the vast, accumulated demands of your own markets—quickly and profitably.

THE DEVILBISS COMPANY • TOLEDO 1, OHIO
Canadian Plant: WINDSOR, ONTARIO

DE VILBISS
Spray Systems

PEDIGREE

TOY ENAMELS

Top grade finishes now used by many manufacturers with complete success... produced from non-critical materials in appropriate colors.

Available NOW!

Formulated for spraying or dipping . . . air-drying time adjusted to fit your schedule . . . remarkable ease of application. WRITE TODAY!

The PRODUCT WITH A PEDIGREE
THE P-D-GEORGE CO.

THE P. D. GEORGE CO.
SAINT LOUIS, U. S. A.

Shortcuts that save time and money become available when "SCOTCH" Masking Tapes are applied to manufacturing operations. The versatility of "SCOTCH" Masking Tapes goes far beyond the limitations of the name. Masking is only part of the story. For help in checking the possibility of using "SCOTCH" Tapes in your manufacturing operations, call for the services of a "SCOTCH" Tape Engineer.

"SCOTCH" Tapes are used for Masking, Holding, Sealing, Splicing, Reinforcing, Identifying, Protecting, Sandblasting.

IF1045

Kindly have a "SCOTCH" Tape engineer call.

Company_____

Address_____

City_____ Zone____ State_____

Signed_____ Title_____

3-M

MINNESOTA MINING AND MANUFACTURING CO.

GENERAL OFFICES: SAINT PAUL 6, MINN.
BRANCHES IN PRINCIPAL CITIES

"SCOTCH" is the trade-mark for the adhesive tapes made by M.M. and M.CO.

HORN *suggests—*

KERATYN

NEW • LOW BAKE • QUICK BAKE

PORCELAIN LIKE FINISH
NO DISCOLORATION
CLEAR AND IN ANY COLOR
ANY DEGREE OF GLOSS

A. C. HORN COMPANY
PRODUCTS FINISHING DIVISION
LONG ISLAND CITY 1, NEW YORK
CHICAGO • HOUSTON • LOS ANGELES

SUN SPIRITS . . . Cuts Costs 60%,

Eliminates Objectionable Fumes, Improves Working-Conditions

A metal-processor was dipping machined parts in a large tank, using a specially prepared chemical solvent for cleaning, before shipping.

Safety Engineers and operators objected to the fumes from the tank, and inspectors reported that an oily film still covered the parts after treatment.

A Sun Engineer was called in and recommended Sun Spirits, a product approved by the plant's Safety Department. Oily films disappeared, and, after a year of use, cleaning-costs had dropped 60%.

For positive cleaning of oily and greasy films, hundreds of industrial plants rely on Sun Spirits. Sun Spirits meets specifications of fire underwriters for cleaning-purposes, cleans quickly and economically. It leaves no spots. For help on metal-cleaning problems, call the Sun Engineer near you. Or write . . .

SUN OIL COMPANY • *Philadelphia 3, Pa.*

Sponsors of the Sunoco News-Voice of the Air — Lowell Thomas

SUNOCO

SUN INDUSTRIAL PRODUCTS

OILS FOR AMERICAN INDUSTRY

Arco Announces...

A NEW, WHITER, BRIGHTER, HARDER ENAMEL FOR HOUSEHOLD APPLIANCES

SYNOX

SYNTHETIC HI-BAKE ENAMEL

Here's the nearest thing to real porcelain enamel you can imagine . . . with a hard, high-white, china-like gloss that makes it ideal for refrigerators, deep-freeze units, ranges, ironers, mixers and cabinets. It may be applied directly to bare metal if desired.

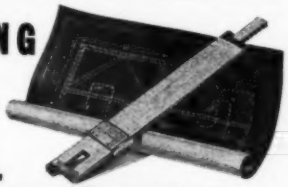
PROVED IN TESTS AND USE

Laboratory tests prove Synox resistant to hot water, alkali, grease and heat. A special type, developed for dishwashers and washers, has even greater resistance to hot soap solutions. For more details, write today.

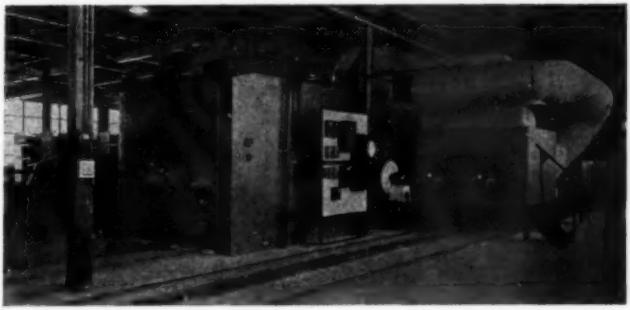
Paints for Industry THE ARCO CO.

CLEVELAND, OHIO • LOS ANGELES, CALIF.

OVEN ENGINEERING NEWS



Four-Zone Finishing Oven Combines Dust-Free Operation, Minimum Handling and Wide Range of Temperatures



This four-zone automatic conveyer oven for finishing metal assemblies is synchronized with spray booths so that work passes directly into its ventilation zone without any exposure to dust-laden air. Ventilation, preheating, baking and cooling zones are separated by automatically controlled and motorized vertical lift doors, which open and close as the work is indexed from one zone to another by a floor-type conveyer.

Oven capacity is 12,000 pounds of work per hour, carried on trucks that weigh 1000 pounds each. Completely automatic controls eliminate the need for oven attendants.

Indirect Oil-Fired Air Heating System

Heated air is furnished by two tandem 1,000,000 B.T.U. indirect oil-fired air heaters which are arranged for maximum recirculation of oven atmosphere and afford a temperature range from 150° to 500° F.

Free Literature

If your production involves heat processing equipment, you'll find our free book "Blueprint for Industry—II" very useful.

(This is No. 7 of a series. Reprints of previous advertisements sent free upon request.)

IOE ENGINEERING VERSATILITY

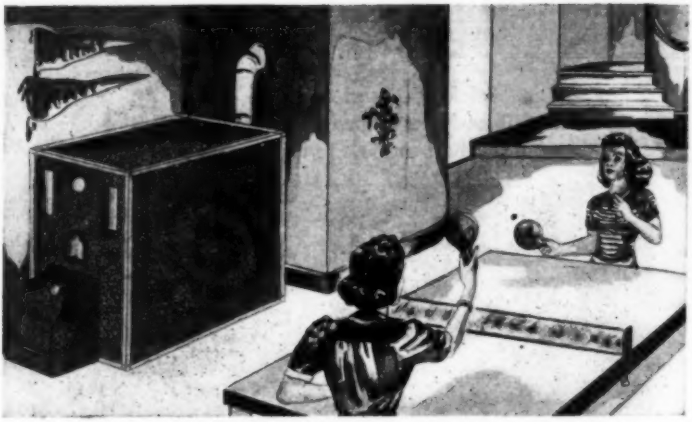
THE INDUSTRIAL *Oven Engineering* COMPANY

11621 DETROIT AVE., CLEVELAND 2, OHIO

Engineering Representatives in Principal Industrial Areas

* ASSOCIATED COMPANY: JAMES DAY MACHINERY LTD., LONDON, W. 1, ENGLAND *

Tomorrow's Basements will be Beautiful—



M&W *WRINKLE* Finish fits the Picture!

Here you see a typical postwar basement—clean, attractively decorated, and providing recreational facilities for the whole family. The necessary plumbing and heating equipment will still be there, but, instead of being eyesores, these units will actually add to the appearance of the room.

M & W Wrinkle finish fits this picture, for it will put a coating of beauty on your postwar product. Versatile in pattern, alive in color, and resistant to wear, temperature and humidity, a Wrinkle finish will add to the eye appeal of the equipment you manufacture and—

"Eye Appeal gives your Product BUY Appeal"

MAAS & WALDSTEIN COMPANY, NEWARK 4, N. J.

PRODUCERS OF LACQUERS, ENAMELS, SYNTHETICS AND SPECIALTY FINISHES FOR ALL PURPOSES

BRANCHES: 1050 CARROLL AVE., CHICAGO 12 • 8 JERSEY ST., BOSTON 16 • 1320 W. PICO BLVD., LOS ANGELES 15

AN INSTRUCTIVE BROCHURE ON INFRA-RED

and it's YOURS

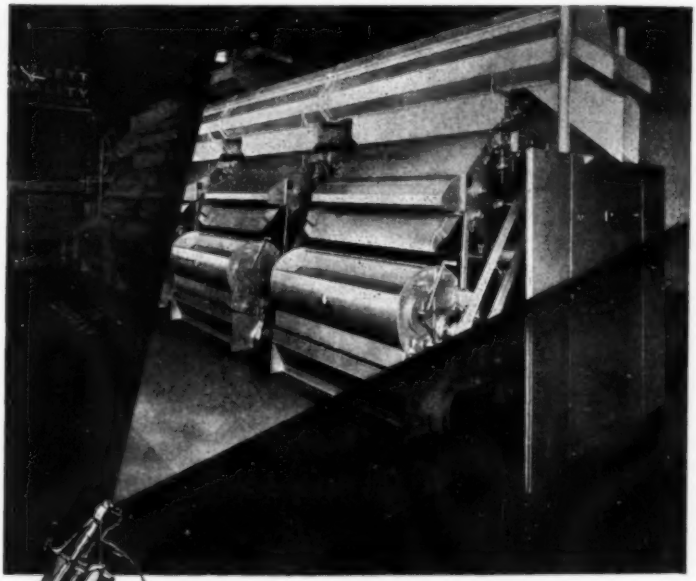
IT TELLS THE COMPLETE STORY AND SHOWS BEAUTIFUL INSTALLATIONS OF INFRA-RED

•

PENETRAY
TRADE MARK

WILL SEND IT TO YOU—FREE

PENETRAY CORPORATION
TOLEDO 5, OHIO



4-Way Finishing Service By Lowe Brothers Helps Break Textile Machinery Bottleneck

The Textile Industry was faced with a desperate shortage of processing equipment! A well-known Southern manufacturer had to reconvert from making shells to cotton gins—*and fast.* More gins and parts than ever before were needed!

Lowe Brothers received a call for a finishing system that would step up production without sacrificing durability. Soon a Lowe Brothers Finishing Specialist came through with recommendations for this 4-way time saving, finishing service.

1 *Time was saved* **by a new Lacquer finish which supplanted a previously used Enamel system. This new finish** *also reduced the drying* **time between coats.**

2 *Time was saved* **by having castings coated at the foundry with an anti-corrosive primer. This eliminated the rust-cleaning operation which was previously necessary on the castings stored outside for the seasoning period.**

3 *Time was saved* **by a new spray-applied Lacquer Base Filler. This cuts the time and labor of hand-glazing and sanding under previous method.**

4 *Efficient application was assured* **by a Lowe Brothers Expert who followed the materials to the job. In addition, he recommended adjustments in the formulas to compensate for climatic conditions. Result, a practical system of finishing** *more cotton gins than ever before* **with a lasting finish.**

Why not let Lowe Brothers supply you with finishes and service that will *speed production and hold costs down.*

Industrial Sales **THE LOWE BROTHERS CO. Dayton, Ohio**

KEEP ON BUYING WAR BONDS

Lowe Brothers

FINISHES for Industry

A 5-POINT FAVORITE with Finishing Men!

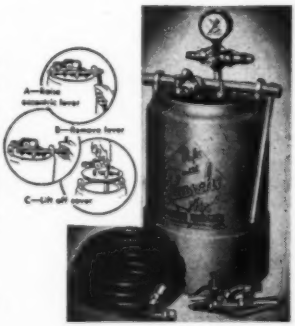
PAASCHE "CU" *High Production* AIR BRUSH

1—[illegible]ER—*uniform, complete coverage at top speed.*
2—Easier-Handling *due to light weight, perfect balance, comfortable grip.*
3—*Finer Atomization under complete control.*
4—*Sturdier construction.*
5—*Most adaptable, due to Multipleheads.*

Fastest method of applying finishing materials is one of the chief reasons this Paasche "CU" Airbrush has the preference in factories, shipyards, on maintenance work, etc.

Lightning-Fast Pressure Feed Material Tank with the Clamp Tight Cover (Off in 5 Seconds)

Save hours in finishing material handling. No bolts or nuts nor wrench needed. Single lever loosens "Clamptight" Cover, or tightens it securely for instant use. Combined with Paasche Airbrush, makes complete high production Airpainting unit.



For details on the full line of Paasche Pressure Feed Tanks, Compressors, Air Regulators, and Manual or Automatic Airpainting Equipment, write for complete Paasche Catalog.

PAASCHE AIRBRUSH CO.

1917 Diversey Parkway — Chicago 14, Illinois
110 Elm St. — Toronto

Paasche AIRPAINTING EQUIPMENT

LET'S LOOK AT *Automatic*

AUTOMATIC spraying can be applied to a large percentage of production work — that is provided a sufficient number of pieces per hour will warrant the outlay for this equipment. I would not advise automatic spraying where the parts or products to be sprayed can be handled by one or two operators, but when finished stock is needed faster than two men can handle it, automatic equipment can be designed, built and installed to suit your requirements. However, please keep in mind that just because it is called "automatic", this doesn't mean that you can turn it on, walk away and forget it.

Automatic spray guns need as much care as hand spray guns, if not more. And there are a lot of small items to watch on an automatic line. A clear picture of the automatic setup's operation should be in the mind of the superintendent or foreman before production is started.

I believe that I can describe a small automatic unit in terms of, let us say, pails instead of shells; or lipstick holders instead of bullets; so with your permission I will tell something about installing a unit for spraying 5-gallon pails.

Place Booth So Adequate Air Can Enter Properly

First, there is the location of the spray booth. Remember, it is a water-wash booth designed to take care of six or eight spray guns. We must consider the width of the booth, number of gallons

View of a complete automatic installation for coating the insides and outsides of 5-gallon pails; also a companion machine for painting both sides of the covers for these pails. This machine enables a manufacturer to get his pails painted inside and outside with two different kinds of material at the rate of 800 to 1000 pails an hour. Photograph, courtesy of Binks Mfg. Co.

Spray Painting

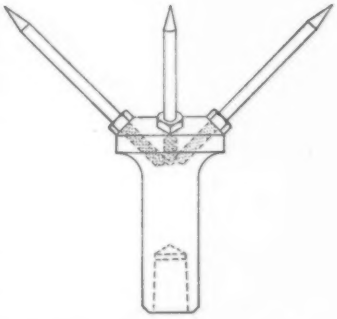
Some of the merits, possibilities and limitations of automatic spray painting. What you need to know and do to put in, set up, operate and maintain this kind of specialized high-production equipment in order to make it really successful and profitable.

of water per hour being circulated in the booth, and the length of the exhaust stack. The manufacturer of your equipment must take all of this into consideration. The outfit is designed for painting a certain number of pails per hour during, we will say an 8-hour day shift.

The front or open side of your spray booth must be placed far enough away from any parallel wall to allow air to be pulled straight into the booth by the exhaust fan. If the open side of the spray booth is set fairly close to a wall, air will be drawn in from the sides, and overspray from the spray guns will back up into your operator's face. It is important, therefore, that the spray booth be placed according to the original information given to your supplier. Do not change its location until you have contacted the spray booth engineer.

Your Foreman Should See the Equipment Installed

When the booth is being installed, see to it that your foreman stands by and watches each operation from the setting and leveling of the water pan, and the sealing of each construction panel with sponge rubber stripping, to the last operation of putting up the stack.



Workholder that holds pails and lids which pass through automatic spray machine (see opposite page). Three rods 120° apart for round pails; four rods 90° apart for square containers. Photo, courtesy Binks Mfg. Co.

By watching these operations he can see things that will help him later when production is under way. For instance, he will know about the water seal on the pump, where and how to regulate the water curtain, the number of washes the overspray receives before air is drawn out through the eliminator plates, the simplest method of cleaning the eliminators, why he should not use strong compounds in the water, and 101 other small but important items. To supervise this equip-

by W. BEACHAM, *Crystal Laboratories*

Close-up of spindle-type automatic spray-coating machine used for finishing small metal parts. Photograph, courtesy of The DeVilbiss Company.

ment intelligently it is necessary to have a clear picture of its construction and the function of every part.

After the booth is erected the conveyor frames and sprockets are placed in position, and the channels are bolted to the corner frames. The conveyor chain is threaded through the channels and the whole conveyor is thoroughly greased.

Evenly spaced along the conveyor chain you will notice pins about ¾-in. in diameter. These pins receive the workholders, each of which has three prongs to hold a pail to be painted. Next we place the rotating unit in front of the spray booth so that a double V-belt contacts the workholder pulleys.

We are now ready for the plumber to hook up the water supply. Compressed air is piped to the spray booth where it is connected to the oil-and-water extractors and air regulators. The electrician hooks up the motors, usually four of them; one to drive the conveyor, one for the rotating unit, one for the pump, and one for the exhaust fan.

While this is being done the air valves, which open and close the spray guns, are installed. This is known as the skip spray. The spray guns are installed, hose is connected, paint is screened through 150-mesh metal screen into the pressure tanks, the double-acting cylinder is hooked up, and we are ready to paint. Very simple isn't it—or is it?

Adjusting the Setup

Now we have to set the skip spray and adjust the spray guns. We place an unpainted pail on one of the workholders, start the conveyor and allow it to run until the pail is inside the spray booth. The skip spray's air valve is then fastened into position and the spray guns are trained onto the pail—one gun to spray the bottom of the pail, while either two or three gun spray the outside.

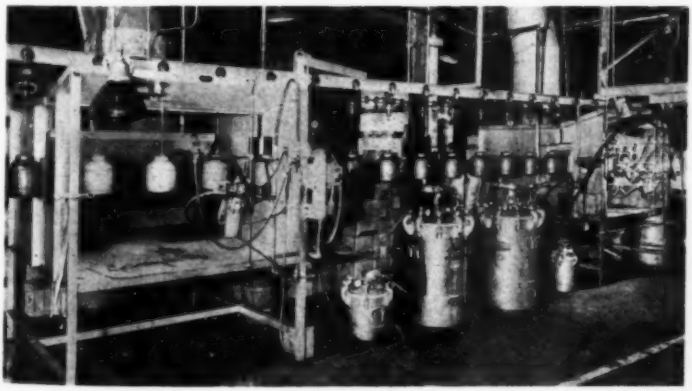
The finger control on the left side of the spray gun must be opened to widen the spray to the width needed without excessive overspray, and the finger control at the back of the gun must be turned clockwise until only just enough paint is being released to give complete coverage over the work in process.

Turning the pail a little at a time and opening the spray guns, we soon have the spray guns adjusted for the outside spraying. The atomizing air and material pressure must be checked carefully. We use only enough paint pressure time and opening the spray guns, usually about 5-lbs. The correct atomizing pressure will vary with each gun and with different types of material. Usually it should be somewhere between 40 and 60-lbs. per square inch. You do not need 100-lbs. of air pressure. In fact, excessively high air pressures cause a waste of material.

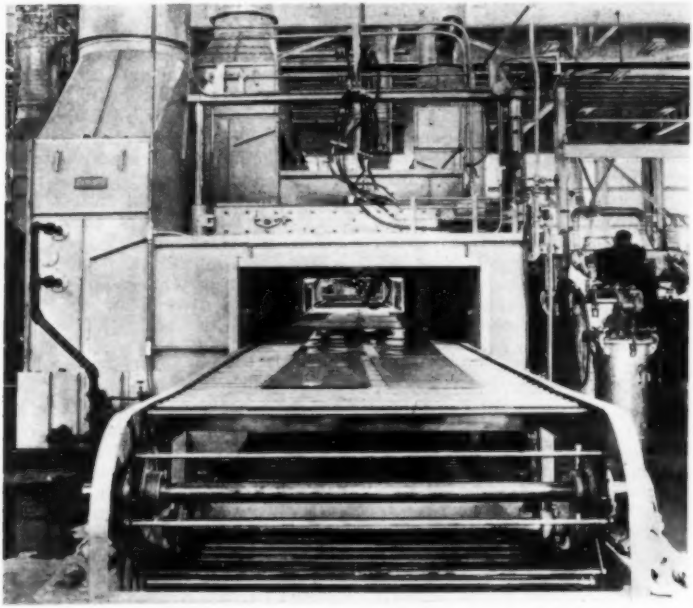
Now to set the guns for spraying the inside of the pail. This is done by adjusting the material as in the first operation. By starting the conveyor we see that the gun holder (which is attached to an air cylinder and fastened to a carriage on top of the rotating unit) is picked up by the work holder and carried along with the moving pail. The spray gun slowly enters the pail, and spraying starts as the gun begins to return to its original position. The speed of the down and up movement of the spray gun is regulated to suit the speed of the conveyor and the type of material being used. Now we are ready to paint.

Start Up the Conveyor and Study What Happens

We start the conveyor. A girl loads pails onto the workholders, leaving a few pails off here and there so we can better see the action of the guns. Just before the pails enter the booth they touch an arm on the skip spray which holds back the control shoe. This allows a protruding pin on the skip spray to travel around toward the air valve. We notice that the



Two automatic spray equipment units, each with an electric eye for the control of spraying operations, designed to handle 450 to 500 thermos jugs per hour. Photograph supplied through courtesy of The DeVilbiss Company.

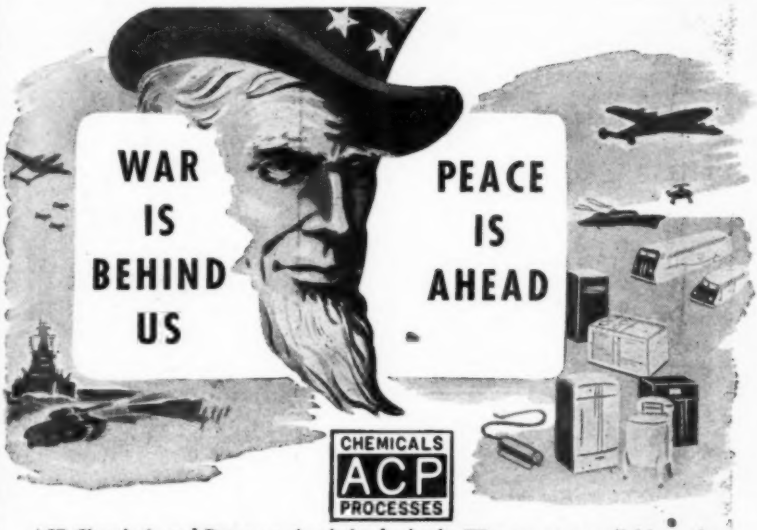


Transverse spray-coating machine with water-wash booth, used for spray finishing flat parts and sheets. Photograph, courtesy of The DeVilbiss Company.

pail has also reached a point in the spray booth opposite to the spray guns, whereupon the pin's pressure opens the valve and allows air to pass to the spray guns. This air acts upon a plunger in the spray gun, giving the same action as pulling back the trigger on a hand gun.

Just before reaching the spray zone the workholder has contacted the rotating unit, and so the pail rotates while being sprayed. The moment the outside spray guns shut off an extension gun enters the pail and travels along with the pail and slowly comes up out of the pail while spraying. As soon as the extension gun is out of the pail the whole gun carriage returns to its original position ready for the next pail. Pails reach the end of the rotating unit as they leave the spray booth. Then they travel a short distance to a point where they may be transferred onto a conveyor that takes them through an oven.

Now look! An empty workholder is traveling toward the spray booth. Watching it, we notice that the arm on the skip spray is not pushed back, there being nothing on the workholder. As a result the control shoe pushes the protruding pin down and the air valve is not operated. This allows the empty workholder to pass the guns without being sprayed, therefore no paint is wasted. *(To page 42)*



ACP Chemicals and Processes that helped win the War are now available to the metal-working industry to make more enduring the finishes on automobiles, farm machinery, refrigerators, washing machines and countless other necessities that will add comfort and pleasure to peacetime living.

210 A DEOXIDINE

Notable among these products is 210 A DEOXIDINE which has the distinct advantage of *cleaning* and *conditioning* at the same time; the combined operations are therefore carried thru in fewer stages —a saving in both time and equipment.

Power washers, heretofore used for alkali cleaning are satisfactory — also the large machines built especially for handling large production of large surfaces. Ordinary mild steel equipment is adequate — stainless steel is not required but may be used if already installed.

To Aid Rapid Reconversion

The simplicity of equipment and operation of 210 A Process will be a material aid to the metal working industry in reconversion to peacetime production. The low cost and excellent results obtained with DEOXIDINE for cleaning and conditioning were proved in wartime production. 210 A Deoxidine will be equally profitable to post-war producers.

ACP has served industry thru two World Wars and the intervening years of peace. This experience in the removal and prevention of rust, in inhibiting pickling baths and other applications of chemicals to the metal working industry is available to you to help speed your reconversion to normal production.

Our Technical Dept. will gladly assist you in the most effective application of our products to your manufacturing requirements. Write Dept. B-10.

AMERICAN CHEMICAL PAINT CO.

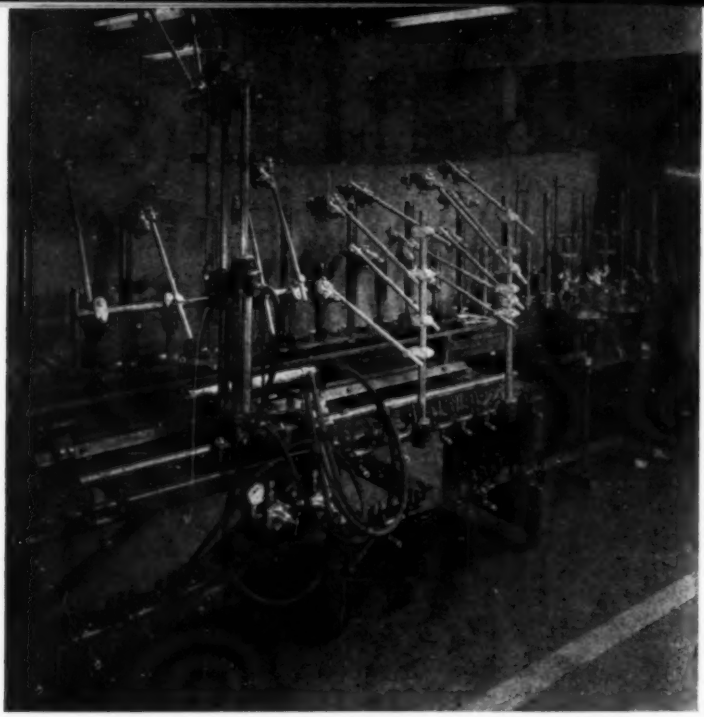
AMBLER ACP PENNA.

Office and Warehouse
3665 Palmer Ave., Detroit, Mich.

West Coast
Leon Finch, Ltd., 728 E 59th St.
Los Angeles, Cal.

DISTRIBUTORS
Metropolitan New York Area
Bricker & Andes, 318 Atlantic Ave.
Brooklyn, N. Y.

Canadian Office and Factory
Walkerville, Ontario
Eastern Ontario and Quebec
Van Camp Products & Sales Co.
177 Parliament St., Toronto, Ont.



Automatic spray equipment set up for shop testing before shipment to user. Photograph supplied through courtesy of Binks Mfg. Co.

I could write pages of description about the skip spray, but I believe I have presented the picture clearly enough for you to appreciate its great possibilities. It is neat, sensible and easily understood by the average operator.

Three Operators to Work; What They Have to Do

Three operators are needed: One to load, one to unload, and one to take care of the spray guns. The spray-gun caretaker's duties include cleaning the air nozzles of the guns with a small brush dipped in thinner. He may have to do this every hour or every ten minutes, depending upon the type of paint used and the position of the guns. He is responsible for adjusting the return movement of the inside guns, etc. There is a considerable amount of adjusting to be done when production starts.

Of course I don't mean to imply that the operator has to be continually adjusting the equipment. Once a setup is properly made it will run itself, provided it is watched to make sure that everything goes well. There is always the possibility that a change in air pressure will cause a change in the quantity of material being sprayed; or a surface that needs oiling may be forgotten and the gun carriage will not return as fast as if it were oiled. In some cases it is the operator's carelessness that

PRECISION FORMULATED · PRODUCTION TESTED

Quality Coating Finishes

for METAL · WOOD · COMPOSITION · PLASTICS · PAPER · ETC.

HIGHER SOLIDS
FEWER COATS
LOWER COSTS
RESULT
BETTER QUALITY
AND
ECONOMICAL FINISHING

For wood finishing, we offer:

20-501 CLEAR WOOD LACQUER
and
20-100 SANDING SEALER

Extreme ease of application. So balanced, they do not sag on vertical surfaces. Formulated for maximum solids contents—whether sprayed, dipped or tumbled.

20-100 SANDING SEALER—dries quickly. Sands easily without gumming up paper. Produces smooth, hard surface for top coat application.

20-501 CLEAR WOOD LACQUER—Its high quality solids content makes possible rapid, non-sagging application. Produces a high gloss, durable, mirror-like surface. Can also be used to produce a gloss finish in one coat direct on wood without use of sealer, where this type of finish is desired.

It will be well worth your while to try these two lacquers in comparison with what you are now using. Write for samples NOW—while you are thinking about it.

Note: *When writing advise us what article it to be finished. Quality and type of finish required. Method of application. If possible —send sample of unfinished piece and sample of finish desired.*

TEXON INDUSTRIAL COATINGS

TEXON INDUSTRIAL CORP.

Manufacturers of

LACQUERS · ENAMELS · SYNTHETICS · THINNERS
WRINKLES · AUTOMOTIVE COATINGS
PAINTS · VARNISHES

General Offices: 10-05 50th Avenue · Long Island City 1, N. Y.

makes repeated adjustments necessary. Sometimes it is the fault of the paint. So you see that an experienced operator is needed at the spray booth to watch the operations and keep the spray guns clean.

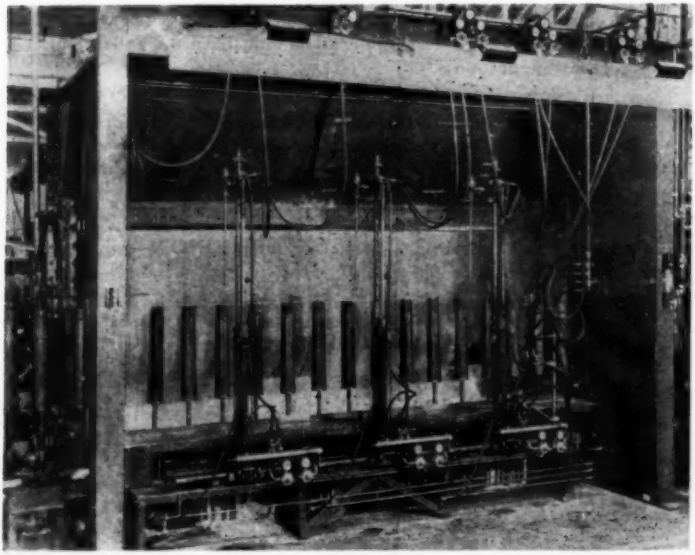
How to Remove Accumulated Paint from Workholders

With the conveyor in continuous operation, over a period of eight hours, the workholders have held hundreds of pails, therefore they have received hundreds of coats of unwanted paint. Some operators remove the workholders and burn off the accumulations of paint. In doing this there is a possibility of warping or otherwise damaging the workholders. Other operators soak the holders in thinner overnight. This practice is costly and involves a serious fire hazard.

I have found that an excellent way to remove accumulations of paint from workholders is to spray a heavy coat of spray-booth coating onto the workholders when they are clean. Then when paint has accumulated on the workholders it can be peeled off as easily as pealing a banana. I have found best results with the type of coating that dries out colorless or almost colorless. The material that dries out white or chalky is hard to remove.

Too Much Speed and Lack of Maintenance Invite Trouble

Now you say: "The automatic unit is working so nice, why not speed it up, or put on another shift



Automatic setup for spraying outsides and insides of deep slender cylinders. Photograph supplied through courtesy of Binks Mfg. Co.

Call on Randolph

for

A REALLY SATISFACTORY

AIR DRY CRYSTAL LACQUER

(prompt shipment)

•

A REALLY RELIABLE

TEXTURE (WRINKLE) ENAMEL

•

A REALLY BEAUTIFUL

HAMMERED METAL FINISH

•

RANDOLPH FINISHING PRODUCTS COMPANY

CARLSTADT, N. J.

Production Finishing Products for Industry

and let's make more money?" Remember it was designed for painting so many articles an hour, on an 8-hour a day basis. If you speed it up higher than it was designed and built to operate, watch out for breakdowns. Or, if you put on another shift, remember that after one year's operation, the machine has worked two years. Some people may reply: "So what, if it wears out in six months, as long as I have made it pay for itself?" But usually these same people complain when it does wear out, because it has lasted only a year or two. Upon checking up we may find that it has run continuously 24 hours a day, seven days a week; and the only cleaning, oiling and sludge removal it received was when the operator changed paint or refilled his pressure tanks.

An automatic spray outfit will last for years, if it is properly taken care of, regardless of whether it is a small unit for painting pails or a large unit consisting of several booths and 50 or more spray guns. When properly set up and adjusted it sprays a uniformly even-thickness coating over all surfaces of the work in process. It sets and maintains a steady rate of production, there are fewer rejects, and less help is required.

To Avoid Oven Explosions

THE FIRST step to take to avoid a gas-oven explosion is to see that the oven is equipped with approved safety equipment.

Now, having an oven with approved safety equipment on it, the next step is to make frequent inspection of that safety equipment, and test it to see that it is operating correctly. These frequent inspections will show whether or not some operator has been careless, or whether he has taken it upon himself to tie up a relay, or block it up with a piece of wood, or jump some wires, or take some other action which defeats the purpose of the safety equipment.

Having approved safety equipment that is properly maintained, there are some other important things in connection with oven operation, such as flushing out the oven before starting, checking the fresh air vent, checking the exhaust vent, checking the burner equipment, and the like.—F. H. F.

Synthetic Wax Available

The Glyco Products Co., Inc., 26 Court St., Brooklyn 2, N. Y., announces that its improved synthetic wax, which melts at 280° F, is now available to consumers. Acrawax C is available for prompt shipment in quantities up to and including carloads for civilian use.

Long Stored Adhesive Tape May Be "No Good"

The Industrial Tape Corp., New Brunswick, N. J. (also Chicago and Los Angeles) has sent out a letter of warning about purchasing and using surplus stocks of industrial pressure sensitive adhesive tapes. Excerpts are as follows:

"If you are interested in the purchase of surplus industrial pressure sensitive tape, we urge you to contact us before doing so. This will enable us to place at your disposal one of our representatives capable of correctly judging the quality of the merchandise involved. Our individual roll coding system enables him to readily identify when and for what purpose the tape was manufactured.

"It must be remembered that industrial pressure sensitive tape is at best a perishable product. Unfavorable storage conditions greatly shorten the life and lower the efficiency of any tape.

"Because of the possibility of conditions outlined in the foregoing paragraph, you should be sure of the quality of any surplus industrial pressure sensitive tape before a purchase is made."

For Conditioning Steel Before Painting or Other Organic Finishing

OAKITE CRYSCOAT PROCESS

TRADE MARK REG. U.S. PAT. OFF.

Out of the war has come this revolutionary LOW-COST process made possible by Oakite CrysCoat No. 86, designed for treating surfaces of steel and iron parts so that when paint is applied, it grips surfaces, adheres tenaciously.

Performing THREE distinct functions in ONE time-saving operation, Oakite CrysCoat No. 86 helps you step-up production, reduce rejects, secure improved results because it:

1. *Effectively, safely removes light oil, grease, dirt from steel and iron parts.*
2. *Imparts to surfaces a microscopic coating that assures improved grippage . . . more tenacious adhesion of paint, lacquer, varnish.*
3. *Inhibits surfaces against rusting before application of paint or other organic finishes.*

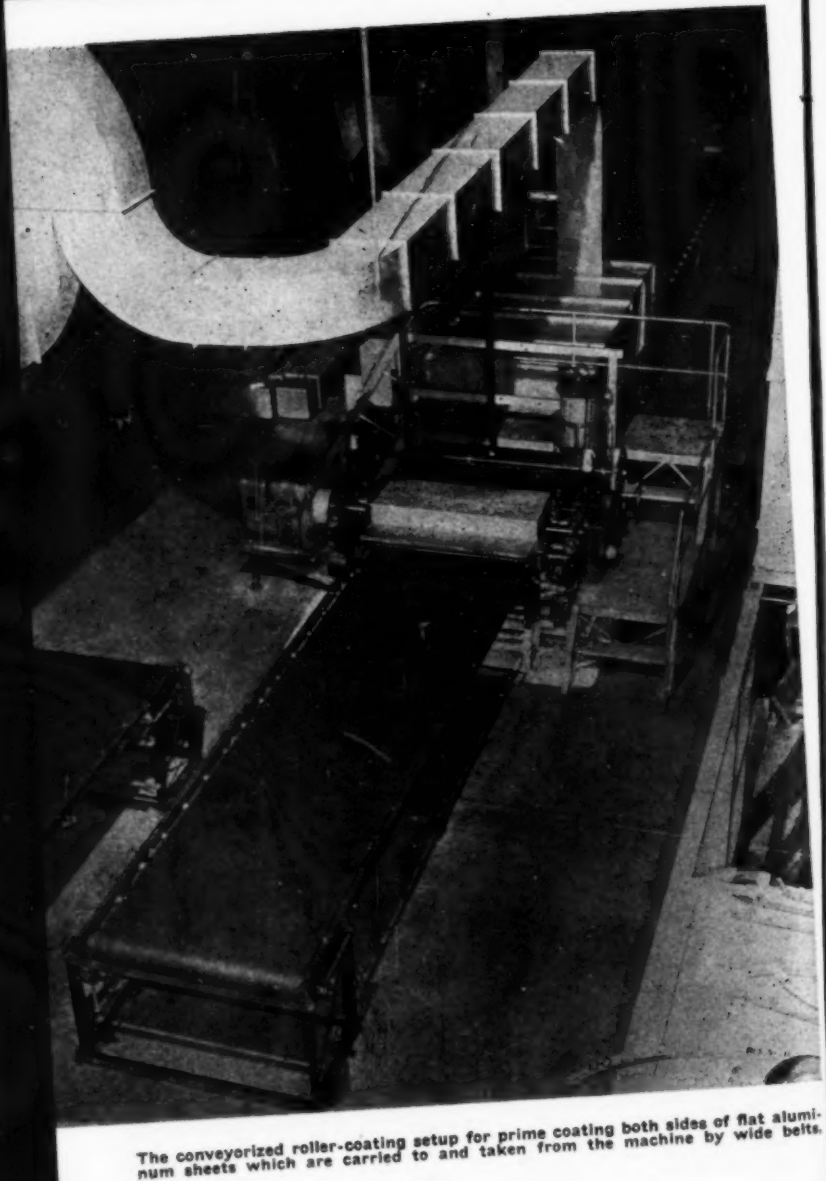
Free Service Report Gives You Details!

A 4-page Special Service Report gives you further details, describes applications and the many advantages obtained through the use of Oakite CrysCoat No. 86. Write for your FREE copy today.

OAKITE PRODUCTS, INC., 32F Thames Street, NEW YORK 6, N. Y.

Technical Service Representatives in All Principal Cities of the United States and Canada

OAKITE MATERIALS...METHODS...SERVICE — Buy Bonds for Victory — **CLEANING** FOR EVERY CLEANING REQUIREMENT



The conveyorized roller-coating setup for prime coating both sides of flat aluminum sheets which are carried to and taken from the machine by wide belts.

PRIMING ALUMINUM SHEETS TWO SIDES BY *Roller Coating*

AT THE beginning of the late war, technicians of the Douglas Aircraft Co., along with other airplane builders, were faced with the problem of developing and using a rapid mechanical method of washing, rinsing and prime coating sheet-stock aluminum on one or both sides in one continuous operation. Paint company engineers were consulted.

Studies indicated that machine priming on one side would be a comparatively simple problem to solve; but how could the entire process, including washing, rinsing and priming of both sides of the sheet be accomplished in one continuous operation?

Today, with the aid of a specially formulated zinc chromate primer, the job is being accomplished by the use of new equipment which combines a series of tanks, driers and rollers. A crew of six men now prime-coat both sides of large aluminum sheets at the rate of 350 an hour; whereas by former methods the same crew could do only 18 or 20 sheets an hour.

The aluminum sheets are first loaded onto a wide conveyor belt which feeds them through a tank containing a solution of phosphoric acid. This treatment gives each sheet a mild etching, along with a thorough washing, and insures excellent adhesion of the priming coat to follow. After the sheets pass through the acid tank they enter a rinse tank where all loose grease and acid are removed. Because both the acid and rinse tanks have steam coils which maintain a temperature of 180° F., the aluminum sheets dry quickly after passing through a squeegee roll to remove surface moisture.

Emerging from the squeegee rolls, the sheets of aluminum fall onto another conveyor system to be carried into a set of rolls that apply a coat of zinc chromate primer on their under side. It was at this point in the process that engineers envisioned a problem that would prove to be a serious stumbling block.

The wet prime coat on the under side of each sheet would remain wet before it could be dropped back onto the conveyor; but it had to be quickly dried or the primer would smudge or brush off. The possible bottleneck at this point was avoided by "floating" the sheet over a current of warm air for a distance of about 5-ft.

The under side of each sheet, now dry, is allowed to rest on a wide conveyor belt which feeds it into a second set of rolls for the application of a primer coat on the top side. After leaving this set of rolls, the sheet feeds onto another conveyor belt to be carried through a warm air current to dry the top side prime coat. At the end of this last conveyor belt aluminum sheets leave as finished, washed and primed stock. The roller coating machine at Douglas Aircraft Co. has revolutionized the 2-side priming coating of stock sheets.

The Douglas set-up will handle sheets of varying sizes from 2-in. to 6-ft. in width, and from 2-ft. to 200-ft. or more in length.

Studies now being made by Douglas engineers indicate that the

roller coating machine will have a wide application during the postwar period. Zinc chromate primers will be needed for protecting interior and exterior plane surfaces, as they are now, and smooth glossy coats of paint will provide increased airflow over the wings and fuselages. Instead of the drab shades of flat camouflage formerly used on war planes, bright eye-catching hues, based on the theory of Color Dynamics, will adorn the globe-girdling fleets of cargo and passenger planes of our postwar years.—*Pittsburgh Plate Products.*

American-Marietta Announces Important Appointments

Ralph F. Souter, formerly American-Marietta director of purchases, has been made Vice-President and General Manager of the Ottawa Paint Works, Ottawa, Canada; and E. Emerson Brott has been appointed to the same position with the Schorn Mfg. Co. and Solastic Products in Seattle, according to an announcement by Grover M. Hermann, president.

Souter, who has been directing the company's buying from Kankakee for the past two years, is a graduate in Chemical Engineering from the University of Kansas. He had 16 years with a Kansas City, Mo., paint and varnish company, doing laboratory work, formulating, acting as paint superintendent and purchasing agent.

"Em" Brott started his paint career in 1923 with a Cleveland, Ohio paint and varnish concern, where he advanced through various departments and held several important posts until given a leave of absence in 1941 to become one of the key personnel in the Illinois Ordnance Plant.

Oakite Victory Conference on Product Cleaning Methods

Highlighting each of the 1945 Victory Conferences of the Oakite organization, held in New York and Chicago during October, was a vast exchange of technical information on cleaning, descaling, derusting, degreasing and related operations, particularly as applied to peacetime manufacture of civilian products. In addition to the entire field force of more than 140 Oakite Technical Service Representatives, these conferences were attended by the staffs of the Mechanical Engineering, Chemical and Research Laboratories of Oakite Products, Inc., New York 6, N. Y.

The various discussions were devoted to the determination of the most effective techniques for performing postwar production and maintenance cleaning operations on a time-saving, low cost basis. Among the many subjects covered were the war-developed Oakite CrysCoat Process for providing tenacious paint adhesion to ferrous metal surfaces; preparation of aluminum and aluminum alloys for spot welding, Alroking, anodizing and other industrial finishes; surface preparation of basis metals before electroplating; use of Oakite materials in cutting, grinding, drawing, stamping, burnishing, tumbling, etc., and other important subjects.

Of particular interest was the announcement of the newly-developed Oakite vapor cleaning unit, which will soon be available to industry. Capable of generating steam pressure up to 200-lbs. within 1 to 2 minutes after starting from cold, this unit discharges 60 to 90 gallons of steam cleaning solution per hour at the desired steam pressure up to 200-lbs. Further, continuous operation of two steam guns at the same time is possible with this unit. It is entirely practical for use in a wide variety of industries.

The information exchanged at the Oakite Victory Conferences is freely available to those interested, through the medium of the Oakite Technical Field Service Staff.

Course in Small Business for Service Men

A short intensive course will be given to train returning service men and women who expect to start their own business, it is announced by Columbia University. The course is to be organized and sponsored by the School of Business and University Extension, and offered on the campus at Morningside Heights. It will be a full-time course, running for eight weeks, October 27 to December 21.

The program is designed primarily for veterans who intend to operate small businesses and who have insufficient time for a regular college program. The course is an attempt to do three things—to assist reconversion by helping veterans qualify themselves to open and operate small businesses; to reduce the heavy mortality and improve the effectiveness of small business, and to aid veterans in qualifying for a worthwhile career of benefit to themselves and to the community.

Telling time by the sun is just as reliable as old fashioned drying methods. But to manufacturers who expect to keep up with tomorrow's competition, continuous high-speed finishing—made possible only with CONTROLLED HUMIDITY forced drying—is a "must!" Already where KOCH Controlled Humidity Forced Drying Systems are in operation, increased production and the virtual elimination of rejects are reported.

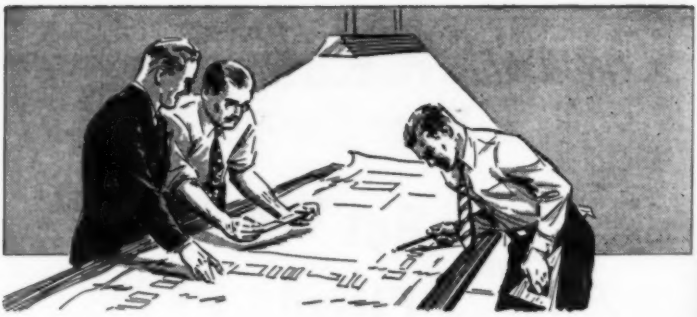
Pioneers in the development of CONTROLLED HUMIDITY Forced Drying, KOCH engineers have a long list of successful installations behind them . . . and a readiness to get at your job, before them.

Get the Facts Today . . . About

Controlled Humidity
FORCED DRYING
SYSTEMS — ENGINEERED BY

KOCH
SONS, INC.
INDUSTRIAL EQUIPMENT
EVANSVILLE 6, INDIANA

Phone, Wire or Write For Information Today



WHAT TO CONSIDER WHEN PLANNING A *New Production Layout*

Make a scale drawing of your floor space and, with cut-out colored cards to represent the machines, arrange the cards in various positions to work out a practical layout. Then refer this plan to other interested men for additional suggestions.

BY PETER P. WOOD

MANY men in industry are now assigned to the task of making plans for new products, modernizing old methods of production, setting up methods and equipment for new production, and speeding up various operations and processes to lower unit costs. These are all interesting problems, but many times they take executives, engineers and foremen deeply into subjects in which they have little or no experience. This presents a critical situation, as production is of vital importance to the successful operation of any industrial plant.

Too many times pertinent questions regarding production means and methods are left to a foreman or worker who, although he may be an expert in his regular routine work, actually has not the first idea regarding the principles of production in its true sense. There are a number of basic elements that are of primary importance. These factors should be listed and every consideration should be given to each one on the list.

1) Factory space required or available for production.

2) Shape and head room of factory space that is available or which can be made available for production.

3) Quantity of production planned during any specific period of time; in other words, how much per day, week, month or year.

4) Size and shape of products to be manufactured.

5) Operations to be performed on each part or product. *(Page 54)*

FOLKS — This Man Is Spraying GLASS!

SILCO

IS A NEW GLASS BASE PROTECTIVE SPRAY FINISH

FOR STEEL AND BRASS

Extremely tough. Remarkably beautiful. Soft matte and eggshell gloss finishes in all colors. The ideal finish for stoves, heaters, mufflers, exhaust and tail pipes, metal filing cases, etc. It withstands heat up to 1000° F. Has high resistance to corrosion, abrasion and impact.

Very easy to work. Spray it on and dry it at 200°F. Then bake it at 350° F. in any industrial oven. Ample navy and other approvals prove that it's here to stay. Samples and full details on request. When writing, tell us what your problem is.

BLACK-MAGIC BLACKING SALTS for STEEL, IRON COPPER, ZINC CADMIUM

WITCH-DIP WITCH-OIL FINAL FINISHES

SILCO PROTECTIVE COATING

Cleaners Wetting Agents Add Inhibitors Heat Treating Salts

MITCHELL-BRADFORD CHEMICAL COMPANY

MODERN METAL FINISHES

2446P Main St., Stratford P. O., BRIDGEPORT, CONN.

CHICAGO OFFICE: 111 W. Jackson Blvd.—DETROIT: June & Co.—CLEVELAND: Universal Paint & Varnish Co.—ST. LOUIS: G. S. Robins & Co.—INDIANAPOLIS: Stovall Equipment Co.—OAKLAND, CAL.: Geo. A. Kushman Co.

6) Length of time required or to be allowed to perform each operation.

7) How the part or product will be delivered to and removed from each operation.

8) Space for, and location of production storage banks, when required. (Banks are set up to assure a continuous flow of production.)

9) What the effect will be if a delay occurs at any one or more operations?

The list just given will apply to a considerable variety of manufacturing operations, although each product will present a separate problem. The main idea is to make a practical reference list from which to work, and then go over it each time, making sure that nothing is overlooked.

Make a Scale Drawing of Factory Floor Space

The best plan is to make an accurate scale drawing of the factory floor space. A convenient scale is one wherein 1-in. equals 1-ft. Include on this scale drawing all windows, doors, partitions, pillars and obstructions that can not be moved. Now start from the receiving room and follow the products through the various machines, assembly operations, painting or finishing processes, and on to the stock room and shipping platform.

Cut pieces of colored cardboard to scale to represent the different machines involved in production. Move these colored cards, which represent machines, around over the scale drawing to try out various possible locations that may seem to be suitable for an economical, streamlined progressive layout, with adequate space around each machine for the operator, maintenance work, possible future repairs or replacements, or maybe slight changes in the position of the machine; and for safety.

Now, by going over the prepared list and putting each colored card in position, you will soon have your factory departments completely under your eye, making it possible to visualize just what will take place at every move in each department. The colored cards representing machines can be held in position with pins, thumb tacks or adhesive.

This plan is employed by almost all large manufacturers and industrial consultants when they plan new or improved production layouts. In some cases the company mounts the final layout on the wall and keeps it up to date by making suitable alterations if or when any future changes or improvements are made in the factory. If this is a good idea for the large manufacturer, it is just as good for the smaller ones.

Details of Layout for Production Painting

Since the planned layout we have under consideration is primarily for the paint room, let's go more into detail. Let's consider the floor space required, or perhaps I should say the space available. Pardon me if I digress a moment here to state that for some unanswerable reason the space allowed for painting is nearly always cut to the bone by top management. It seems that after a product has been machined and assembled to its final shape, executive interest and enthusiasm ceases; further operations take time, expense and valuable floor space. Actually the finish or paint job on a product is just about the most important part of it, from a sales point of view. *(To page 56)*

DULL BLACK ENAMEL NO. 110-115

Now Available!

ONE TEN - ONE FIFTEEN is a number to remember. It represents an advancement of years in formulation. Perfected for specific use on certain war materiel, it has been closely restricted to the highest priority. With the unusual qualities 110-115 entails, it truly opens a new era in industrial finishing.

It is applied at the highest percent of solids of any Synthetic Enamel we know of, (actually 55%). One coat does the work of three of any other type,—a primer finish coat all in one which dries to handle in three to five minutes. 110-115 may also be baked for short periods of time for unusual hardness and is adaptable to any kind of metal finishing.

Write for further information

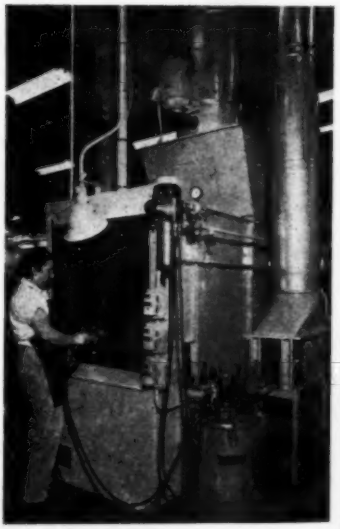
BECKWITH - CHANDLER CO.,
NEWARK, N. J.

First let me emphasize that I would allow all the space that is needed for every operation included in the product finishing—surface preparation, paint application and paint drying. Mark in the walls of a room around this area. Now place the equipment cards properly in this room to correspond to the flow of production. Be sure to include room for sanding, masking, stenciling, application of decals, or other incidental operations that may be necessary. Go through the process mentally several times and try to rearrange the equipment to better advantage. After doing this several times you will find that each time you get an idea you can probably improve your original layout. Perhaps you may find where you can use less floor space, less manpower, and get more rapid production, or accomplish something else that is desirable and essential. Have your production men examine it carefully and criticize it or okay it. A workman may discover something you have overlooked, or he may make a worthwhile constructive suggestion.

After you have your layout completed to your satisfaction, ready to be explained to equipment manufacturers and engineers, there is another point to consider. Where there is a spraying operation, you will have a condition of high velocity exhaust air. This movement of air must be considered from several angles.

Movement of Air in Spray Rooms Is No. 1 Problem

The factory heating system was originally installed to maintain a normal 70° to 80° F. temperature, with all calculations to cover the normal heat losses. Now when a spray booth is installed, the air that is exhausted must be replaced with air that has easy access from the outside. If the spray room is shut off from the rest of the building by walls and doors, you have a real problem that demands serious consideration. Suppose the room has 100,000-cu.ft. and you install exhaust fans to remove as much as 50,000-cu. ft. per minute. In this case it is evident that you are set up to remove 50% of the air each minute, or the total contents of the room every two minutes. If the room is separated from other portions of the plant by walls and doors which are to be kept closed, it is apparent that trouble will be at hand by the end of the first two minutes of exhaust fan operation. *(Cont., page 58)*



Whenever air is pulled out of a room by fans and exhaust stacks, provision must be made for admitting an equal volume of air from the outside—usually through heating coils during winter time. Photo, Binks Mfg. Co.

What You Have Been Waiting For —

Available Now!

Not a substitute—not an imitation—not an emergency stop-gap —POLYPLASTIC is a war finish now released for the products consumers are longing for — washing machines, mixers, vacuum cleaners, refrigerators, office appliances and other products that require a super finish.

POLYPLASTIC Synthetic Finish not only gives lasting protection with brilliant beauty — it gives it F-A-S-T. Also obtainable as a unique **monobake** finish— primer and finishing coat baked in one operation — cuts oven time in half.

POLYPLASTIC is not temperamental in the oven, slight temperature variations make no difference in color and lustre.

In white and standard colors.

Your inquiry is invited.

STANDARD VARNISH WORKS

2600 RICHMOND TERRACE
STATEN ISLAND, N. Y.

2600 FEDERAL STREET
CHICAGO, ILLINOIS

SINCE 1870

Engineers of Product Finishes

The exhaust fan will continue to operate and attempt to remove the 50,000-cu.ft. of air but, with the room closed and only small openings here and there through which more air can enter to replace the air exhausted, you can realize that the air entering the room will come through these leaks, and it will come in at very high velocity. One or more places where there will be room for air to enter is under the doors at the floor line. This air, moving at high velocity, will pick up all the dirt on the floor, near such openings, and carry into the room which is under partial vacuum. This dust is one thing we attempted to eliminate when we built the walls around the spraying area, but now we find that we have not accomplished what we started to do.

A considerable volume of air is moved by the exhaust fans and piping required to properly serve these several spray booths—and this must be taken into consideration when planning a product painting or finishing room. Photo, courtesy of The DeVilbiss Co.

Air Must Enter Room to Replace What Fans Draw Out

Remember this about exhaust problems: When air is drawn from inside a room and blown outside, an equal amount of air from the outside must and will come into the room to replace it. The air entering will be from the outside, at outside temperature. The air may enter at a point 500-ft. away from the exhaust fan, but it must enter, or the room will be in a state of partial vacuum when all doors are closed.

I have in mind what actually happened in one paint spraying room. In a room of about 100,000-cu.ft. there were four exhaust fans, each having a capacity of 25,000-ft. This meant a complete change of air in the room every minute. At one end of the room there were heavy metal sliding doors weighing about 8000-lbs. each. When the four fans were turned on all at one time, the 8000-lb. doors were lifted off their rails and jerked violently inside the room during the third minute of operation.

When spray rooms are being planned, several things must be considered—the number of spray booths, their location, the volume of air required to supply these fans, and some practical provision for replenishing the air that is exhausted. For a simple explanation I refer you to my article (under the pen name of C. J. Kenmore) in February 1944 issue of INDUSTRIAL FINISHING. In this article I pointed out and illustrated how and why the air entering the spray room can work in harmony with the high velocity exhaust through the spray booth, or how it can be upset by eddy currents, thereby

Remember Pearl Essence for

A Decorative Finish

MEARLMAID Pearl Essence is being used on hundreds of different products to produce a decorative and attractive effect.

Investigate the numerous advantages of a Mearlmaid Finish before you select the final coating. Its sales appeal and merchandising value are important.

THE MEARL CORPORATION

153 WAVERLY PLACE NEW YORK, N. Y.

Factories

ROSELLE, N. J. EASTPORT, ME.

Has High Reflective Light Value

For Dials Controls Instruments

"WORLD'S LARGEST PRODUCER OF PEARL ESSENCE"

creating an untenable condition and a spray booth which does not work satisfactorily.

Example of Improper Air Movement in Spray Booth

When a spray booth is installed improperly, as to its location in the room, many odd things can happen. Upon examination of such an installation you may find that 90% of the air entering the spray booth enters along one wall or at the top of the booth and passes directly to the fan, with little or no movement of air at the central point where the spray gun is operated. As a result, the air at the point of spraying goes in all directions, making spray dust deposits on the walls or in front of the booth or on the opposite side of the spray booth wall. This type of installation, even though it may be a very high quality dry or wet booth purchased from a reliable manufacturer, is not only disappointing, but in some instances it constitutes a definite fire hazard. In some cases the overspray has actually returned to the finished work in sufficient quantity to cause rejects of finished materials.

Because of the fact that we are unable to see air in motion, and because so few people know the behavior of air in motion under various conditions, it would be well to call in a spray equipment representative or engineer to go over your intended layout as you have it arranged on your two dimensional layout drawing. From this he can visualize the conditions. He can see where the replacement air, which is necessary for any spray room, will come from, and he will be of major assistance to you.

Most products are painted to protect their surfaces for a long time, and to give attractive identification or decorative effects for effective sales appeal. Accordingly, executives responsible for factory expenditures and plans should consider the spray room in every detail. It is as important—in many cases more important—than some machine operations. It is well to remember that an attractive well finished surface will often sell defective or poorly assembled merchandise. You only get out of anything as much as you put into it. Do a complete job of planning and satisfactory results will be assured.

Industrial Oven Eng'g. Co. Opens Branch in Chicago

The Industrial Oven Engineering Co. of Cleveland, Ohio, has opened a branch office in Chicago, Ill., at 332 S. Michigan Ave. This firm designs and manufactures all types of ovens and oven processing systems for temperatures up to 1000° F., specializing in complete coating and impregnating systems for wire cable, rope, tape, textiles, etc.

In charge of the Chicago office are H. W. Munday and F. T. Greaves, both graduate engineers and specialists in industrial heating problems. Mr. Munday is a director of the Armour Research Foundation and a trustee of the Illinois Institute of Technology.

Hercules Expands Plant that Produces Hard Resins

The Hercules Powder Co. announces a $200,000 expansion of its Mansfield, Mass., plant which will triple production of hard resins. The majority of this increase will go into the manufacture of Pentalyn Resins, the pentaerythritol esters of rosin, pioneered by Hercules.

Reflecting confidence in the ability of the Pentalyns to hold their high position in the postwar paint and varnish industry, the additions to the Mansfield plant were begun in June and are now in operation.

New facilities for producing hard resins will also make possible the more rapid development of new resins and new types of resinous raw materials for the paint, varnish, and lacquer industry.

A Finish for Every Purpose

INFRA-RED BAKING FINISHES · SYNTHETICS · PAINTS · JAPANS · COLORS · VARNISHES · PLASTICS · ENAMELS · STAINS · LACQUERS · WRINKLE FINISHES · SPECIALTIES · OPALESCENT FINISHES

Put your Reconversion Finishing Problems up to Murphy

For most manufacturers the end of the war marked the beginning of the race to "get there first" in reconversion. Since speed is such an important factor in this transition, production men can't afford to gamble with unproven finishes. That's why more and more of them are putting their finishing problems up to Murphy.

Individualized finishes, which combine the utmost in beauty and durability, are the keystone around which the Murphy Finishes Corporation has been built. The smart interiors of crack Pullman cars, resplendently-finished concert pianos, radio cabinets, interiors and exteriors of airplanes, yachts, etc., are but a few of the innumerable instances in which lasting beauty has been attained through the medium of the *right Murphy finish.*

Whether your product finishing involves wood, metals, fabrics or plastics . . . whether the finish calls for air-dry or bake, application by brush, spray, roller-coat, dip or tumbling, infra-red or high-frequency baking, etc. . . . there is a Murphy product to fit your needs perfectly.

Get in touch with our nearest office regarding your finishing requirements now.

MURPHY FINISHES CORPORATION

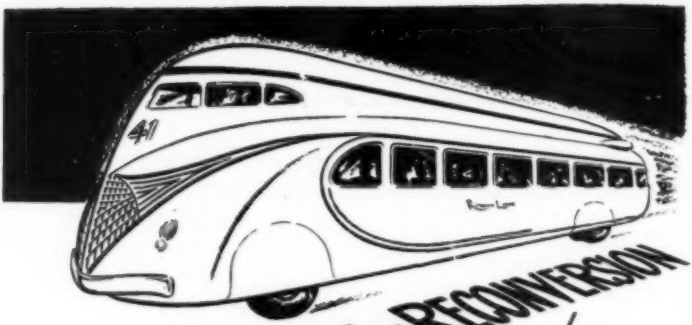
A subsidiary of Interchemical Corporation

NEWARK • SAN FRANCISCO • CHICAGO

For WOOD, METAL PLASTIC, FABRIC

Over 2,000 individualized finishes formulated since Pearl Harbor to fill rated orders

MURPHY *Protective* COATINGS



Our Pattern for RECONVERSION

by DALE W. MUSSELMAN

DURING the greater part of the last four years, industry's attention and efforts were commandeered, almost 100%, by problems of war production. Only when the tide was turned definitely in favor of the Allied Armies, did the question of a return to civilian production begin to enter the picture. Then came V-E Day! The urgent demands for war materials eased somewhat, allowing the first opportunity for some serious and definite planning for the postwar era. Then with astounding suddenness came V-J Day. The problems and troubles confronting industry, in meeting difficult war production schedules, disappeared into the past.

Now, with the passing of this period, comes a realization that in meeting the new and present-day problems of reconversion to civilian production, we must utilize to our advantage the many lessons learned—many of them the hard way—during the past four years. Perhaps the most important lesson we learned is that seemingly im-

Our plans for more and better production in our former line of work are influenced by the things we learned in making war products, and will include a progressive arrangement of work stations along well planned conveyor lines. We will give particular attention to treating and conditioning all surfaces before painting; and to quickly drying the paints.

☆ ☆ ☆

possible problems can be solved when attacked with unlimited ingenuity and aggressiveness.

We Built and Painted Commercial Truck Bodies

In pre-war days our company's business included the manufacture of custom-built commercial truck bodies. Plans are now being form-

WALKER

Protective and Decorative

COATINGS*

Primers · Surfacers
Synthetics
Lacquers · Wrinkles
Special Coatings

***All Walker finishes have been developed and formulated in our laboratories for specific purposes and further proved by actual field service.**

"Call on Walker"

H. V. WALKER CO.

Elizabeth, New Jersey

MODERN PRODUCTION FINISHES

ulated to resume this line of work. To meet the keen competition that is anticipated in this field, several definite factors must be kept in mind. Speed in turning out the work must be increased over pre-war days, due to increased costs in many directions. We must have more accurate time study and material checking to keep abreast of production costs. In speeding up production, the quality of our workmanship and the durability of our finished products must not deteriorate. They must meet formerly established high standards, while at the same time we are striving to improve on those standards of quality.

The necessity of meeting and coordinating the factors of production speeded-up, time and material control, and high quality products calls to our attention the methods which served us in meeting tough Government schedules during the war period. An assembly line system, combining a type of conveyor suitable to our product, with a modern metal cleaning and treating unit, and an efficient painting and drying setup, will be the answer.

Why We Favor a Modern Conveyor System

A conveyor system, properly designed and installed simplifies the painting operations by getting the product to the proper place and in the right position to be efficiently painted. This also applies to cleaning and drying operations. Apportioning the work among employees is also simplified, as each employee can be assigned to a certain regular job and can be held responsible for its correct execution.

Lags in production, or an inspector's discovery of poor workmanship, can be quickly traced to the source—not only to the department but to the individual worker or workers responsible for the trouble. As a result, when something goes wrong it can be quickly discovered and corrected. An efficient inspection department on the line is a definite "must".

For us a conveyorized assembly line means a systematic method of getting a great many varied parts consolidated into completed units, and getting those units assembled, finished and ready for shipment at a specific point in the line.

Surface Preparations; and Plans for Color Work

A satisfactory system of metal cleaning and surface preparation for paint coatings, coordinating with the assembly line, is of first importance. Quality of the final finish depends entirely upon a properly prepared surface. Our experience has proved that a well cleaned surface, followed by an acid etch and phosphate deposit, is the best guarantee of a durable paint job. An automatic or semi-automatic cleaning setup is a great saver of time and labor. It gives satisfactory results quickly and efficiently.

Our painting system will depend, to a great extent, upon the variety of colors used, as well as on the volume of material consumed. If we carry on with only a small number of standard colors, we will adapt pressure tanks to our work. but if too great a variety of colors is needed, pressure tanks will be used only for the priming, interior painting, and undercoating, etc. We may possibly install a paint circulating system, adequate for our needs.

Our paint storage and mixing room will be located as close to our paint department as safety

RETURN TO PEACE TIME PRODUCTION

Phone our distributor Today
Cleaning Helps Cause Battlecracks

Now is the time to attack your metal cleaning, finishing, and plating problems on all "5 fronts" with MAC DERMID INC. *individually formulated* metal cleaners.

NEW YORK
Udylite Corp.
(L. I. City)
phone Stillwell 4-0076

DETROIT
Udylite Corp.
phone Plaza 3500
and
Wagner Bros.
phone Madison 9620

CHICAGO
Udylite Corp.
phone Chesapeake 9640
and
Geo. A. Stutz Mfg. Co.
phone Seeley 4250

CLEVELAND
Udylite Corp.
phone Henderson 3234
and
McGean Chem. Co.
phone Main 6425

ST. LOUIS
LaSalco, Incorporated
phone Grand 2990

You can rest assured that the basis metal of your product has been cleaned equal to any competition when you use MAC DERMID INC. *individually formulated* compounds for faster, economical metal cleaning yet the cost is no more than ordinary cleaners. Ask our representative to prescribe the special variations of the following compounds as they may be applied for the improvement of your metal cleaning cycle.

ANODEX Now available in special variations for electro cleaning ferrous metals with reverse current.

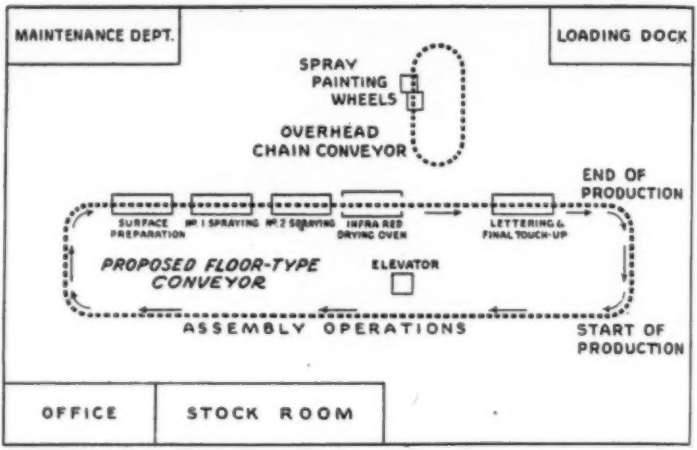
METEX Now *individually formulated* compounds for general purpose cleaning.

METALEX Faster acting compounds for cleaning in tumbling barrels and use as a soak or electro cleaner.

DYCLENE E Special variations available for cleaning die cast metals with elimination of gas absorption—helps produce an adherent bright deposit.

Write for Individual Application Data Sheets

MAC DERMID
INCORPORATED
WATERBURY 88, CONNECTICUT



A quick general sketch of our proposed floor plan, showing the conveyorized setup for assembly, surface preparation, painting, paint drying, final touch-up work.

permits. All mixing will be governed by strict adherence to viscosity control, so we can maintain a uniform quality in all of our paint jobs. Instead of keeping in stock a large variety and range of colors, we will stock a supply of basic mixing enamels and make our own specified colors in compliance with a basic formula system. Coordination of a properly prepared surface, along with the use of first class paint materials adds up to quality and economy, both of which will be needed to meet postwar competition.

To complete our conveyorized finishing system, a method of forced drying will be imperative. An infra-red drying lamp system seems to be the most practical for our particular type of work. The drying system must be capable of adjustment in size to meet the wide variety of commercial vehicles we plan to produce. The merit of adaptability, which is associated with an infra-red drying system, will probably be the deciding factor in its favor.

How a Typical Truck Job Will Start on the Line

Combining the foregoing stages of finishing operations, I will move a theoretical unit of our manufacture, over our theoretical (at present time it is only in our minds or on the drawing boards) assembly line and through the various operations.

This truck, we will assume, is a standard cab-over-engine job 18-ft. in length (measured from the rear of cab) with plywood interior and an all metal roof. The exterior is to be painted a Chinese red. An 18-in. diagonal band on each side, extending from upper corner to rear lower corner, must be painted yellow. The inside is to be finished natural; the cab interior to be painted in beige, with a dark brown stipple on the door panels and

USERS TELL US WE'VE DEVELOPED A

Better Finish for Sink Cabinets

CHARACTERISTICS:

High resistance to soap, grease and floor cleaning detergents . . . perfect matching of color with porcelain-enamel sinks and drainboards . . . complete color stability . . . long wearing qualities (It's both hard and tough) . . . maximum protection against rust.

APPLICATION:

One coat, consisting of two spray passes.

BAKING TIME:

20 minutes at 300° F. (or equivalent).

Vedoc

All *Vedoc* finishes are developed for a specific use, then slightly varied to best fit each customer's production setup. For more information about these "better finishes", write . . .

LIQUID PLASTICS DIVISION
FERRO ENAMEL CORPORATION
CLEVELAND 5, OHIO

dash. The wheels are to be Chinese red; the chasis and underside of the body will be a lustrous durable black.

The wheels, which will be removed when the chasis is placed on the floor type conveyor, will be taken to the small spray painting booths (see water-wash booths and small conveyor line in floor plan) and painted red. The main unit will move by floor type conveyor, through the various stages of assembly, until it is completed and ready for painting.

The first step will be the cleaning and phosphate treating process for all metal surfaces. At this station, the interior of the body and cab will also be conditioned for the specified finishes. The necessary masking will be done.

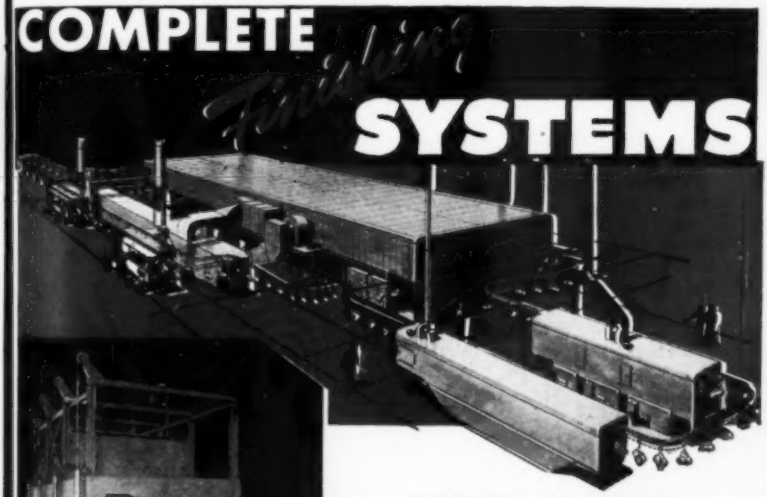
First Coat Painting Station; Final Coat Plus Drying

The first painting station on the conveyor line will be for all initial coatings. From a painting pit below the floor conveyor, the specified coatings will be sprayed onto the chasis and understructure of the body. Quick-drying primer and surfacing coats will be applied here. The body interior will be finished natural with the necessary sealer and varnish coats, while the cab interior will receive a coat of lacquer sealer and the beige color coats. The unit will then be moved to the second painting station where the necessary light sanding will precede the application of red color coats.

Moving into the infra-red bake oven, the red coatings will be force dried and returned to the color booth by means of a switch in the line. Back in the color booth, the brown stipple will be applied to the door panels and dash with a special spray gun which produces the desired pattern. After the proper layout and masking, the yellow band will be sprayed on, and the unit will again move into the drying room for its final

A sample of one of our pre-war truck bodies. Body is light cream; diagonal band, dark blue; shaded panel, red with white lettering outlined with black.

COMPLETE *Finishing* SYSTEMS



...engineered to DO YOUR particular JOB

No matter what your product is—if it is finished in Lacquer, Enamel or Porcelain—no matter how complex or exacting your finishing requirements may be, Mahon engineers will design a Complete Finishing System to meet your specific production needs . . . your product will be assured a better, more uniform and lasting finish, and your finishing costs will be reduced too. Twenty-five years of practical experience, in this highly specialized field, give Mahon engineers an advantage of a wealth of technical knowledge which goes into the engineering of each individual Mahon Finishing System . . . each phase of Cleaning, Rust Proofing, Drying, Spraying or Coating, and final drying or baking must be properly coordinated in regard to effect and timing—and the system as a whole must produce at a specified rate per hour, day after day. Mahon engineers know that Finishing is an extremely important production operation—they recognize their responsibility to industry.

Metal Cleaning Machines, Rust Proofing Machines, Hydro-Filter Spray Booths, Ovens of All Types, Filtered Air Supply Units, Hydro-Foam Dust Collectors—and Many Other Units of Special Production Equipment—including Complete Finishing Systems.

Address inquiries to INDUSTRIAL EQUIPMENT DIVISION

THE R. C. MAHON COMPANY

Home Office and Plant, Detroit 11, Michigan
Western Office, Chicago 4, Illinois

MAHON

baking. After leaving the paint drying oven, the wheels will be mounted and the unit will be advanced to the final station where the customer's lettering will be applied; masking will be removed, and necessary touch-up work and inspection will take place.

Our present up-draft water-wash spray booths will very likely be converted into down-draft water-wash units—with whatever alterations may be necessary to take care of our proposed type of work. Many alterations and changes will be made in the present plans, but a basic plan is a vital necessity for a beginning.

Reliance Varnish Co. To Build Complete New Plant

After 25 years in one location, the Reliance Varnish Co., Inc., Louisville, Ky., has completely outgrown its present plant. Since sufficient vacant land adjacent to its present location is not available, a new plant site of over 13 acres has been chosen on the outskirts of Louisville.

For over two years, engineers and architects have given continuous thought to plant and equipment layout. Numerous plans have been developed, revised and put on paper. The firm of Ford, Bacon & Davis has been engaged as engineers, and the first unit—a synthetic resin plant—will be started shortly. The new factory will be so arranged that any one department can be expanded considerably without affecting any other department.

Reliance laboratories, which have always been considered among the finest in the country, will be further enlarged. They will be equipped with every known device for the development and evaluation of fine technical coatings, and will be housed adjacent to enlarged office facilities in the administration building.

Some rather revolutionary plant ideas will be put into effect and everything possible will be done to make Reliance products meticulously accurate and uniform in all their properties. Equipment of the very latest design will be installed for the manufacture of fine varnishes, lacquers, enamels, undercoats, stains, fillers, synthetic resins and other technical coatings.

The entire plant will be connected, one department with another, by means of a covered trafficway, which will be car floor height, and will be used for loading and unloading both railway cars and trucks.

Construction will be started soon and it is hoped that the entire new plant will be finished the latter part of 1946. The present plant, as advertised elsewhere in this issue, is for sale and will be occupied on a lease basis until the new plant is finished.

Rogers Paint Products, Inc. New Name of Old Firm

Announcement by Earl L. Hess, Vice President and General Manager of Detroit White Lead Works, that the corporate name of the organization has been changed to Rogers Paint Products, Inc., is only part of a carefully blueprinted postwar program that will carry this famous line of Detroit products to every country on the globe. The new name will give unmistakable, world-wide identification to the maker with the prestige Rogers Paints have enjoyed nationally for 65 years.

There will be no change in personnel or organization. The change in name is being made to facilitate and simplify merchandising and to streamline operations in step with modern trends.

Since 1880, when Colonel Ford H. Rogers took the helm of the newly organized Detroit White Lead Works, the varnishes, enamels, automotive and industrial finishes . . . paints for every purpose made by the company have been marketed as "Rogers Paints". In nearly two thirds of a century that name has come to stand for quality standards, rigorously maintained—a reputation jealously guarded.

Harry Deuber, Jr., Joins Acme White Lead

Mr. Harry Deuber, Jr., has joined the Industrial-Automotive Division of Acme White Lead & Color Works, to serve the Detroit automobile-producing trade. Mr. Deuber has spent 19 years with the Baltimore and Aberdeen Ordnance Divisions, specializing on painting methods and products. During the war years, Mr. Deuber worked closely with Government vehicle contractors. His activity with Acme will be concentrated on automotive finishing problems and products, including primers, surfacers, metallic lacquers and enamels, lacquer and synthetic enamel finishes of Acme-Sherwin-Williams development and production.

MEMO *from* . . .

CLINCO

Change to "Civvies"

Like returning veterans, manufacturers must now change to "civvies." That means changing to civilian production quickly. And, finishing materials just right for peacetime production are needed! Then we suggest . .

FOR PEACE TIME PRODUCT FINISHING

USE *Clinco*

IMPROVED MATERIALS

Casket Finishes
Furniture Lacquers
Synthetic Enamels
Clear and Pigmented Metal Lacquers
Pigment and Nongrain Raising Stains

Write for Recommendations

THE CLINTON COMPANY

1210 Elston Avenue **Chicago 22, Illinois**

THE CARE AND MAINTENANCE OF HAND *Fire Extinguishers*

By Safety Research Institute

HAND fire extinguishers must be kept ready for instant use or they may fail to operate properly when needed. To maintain them in good working order, they must be inspected frequently, refilled immediately after use, and thoroughly serviced at least once a year.

The annual servicing may be carried on throughout the year by a few experienced men, who also take care of recharging. If a large number of extinguishers is involved, the work can be done at one time by a group especially assigned to this duty. Inexperienced men should be supervised to assure correct treatment and reassembly of each extinguisher. In no case should so many extinguishers be removed for servicing at the same time as to leave any area without protection.

Soda acid and foam extinguishers must be recharged annually, if they have not been used and refilled in the meantime. Other types are recharged only after use. The tag attached to each extinguisher should show the last date of recharging or annual servicing. Only replacement parts or recharging materials made by the manufacturer of the extinguisher being serviced should be used.

The servicing procedure for each type is as follows:

Vaporizing Liquid: Test the action by pumping some of the contents into a clean, dry container, and return the discharged liquid. In the case of the pump-gun types, add more liquid, if necessary, to bring the level to within ½-in. of the top. In servicing the stored pressure type, bring the liquid to the proper level and replenish the air pressure.

Never recharge a vaporizing liquid extinguisher with ordinary carbon tetrachloride, or use water to test operation, as either will cause corrosion. Do not lubricate any part of the extinguisher.

Soda Acid: Be sure the nozzle opening is clear; then invert the extinguisher and discharge the contents. Unscrew the head and examine the gasket, which should be replaced if it is damaged or badly worn. Remove the cage containing the acid bottle, putting aside the stopple for later replacement. Make sure that all the extinguisher parts are kept together so that they may later be returned to their respective units.

Rinse the extinguisher shell thoroughly with warm water, draining it through the hose. Open clogged holes in the hose strainer with a piece of wire. Replace the hose and nozzle, if badly worn or damaged.

Dissolve the dry chemical in lukewarm water, according to directions on the recharge package. Pour the solution into the extinguisher shell, and bring to the filling mark by adding water. Remove the cork from the new acid bottle and replace it with the stopple from the old bottle. Replace bottle and cage in the extinguisher neck. (If any acid spills on the

Check Rust Economically
with these
New Berry Brothers' Primers!

•

No. 30 Synthetic Gray
No. 25 Synthetic Red Oxide

. . . products of extensive research
by one of America's leading wartime primer producers

- Highly corrosion-resistant
- Economical
- Good base for lacquer or synthetic finish coats
- Air-dry to recoat in five minutes
- Zinc chromate inhibitor assures freedom from corrosion
- Ideal for automotive bodies and parts, washing machines, farm equipment, steel sash (as shop coat), and other metal products demanding maximum corrosion resistance
- Can be used dip or spray
- Excellent dip tank stability
- Bake in gas or electric oven, or infra red
- Reduces equal parts with Toluol substitutes
- Immediate delivery

For further information or test samples, write or wire Berry Brothers' Industrial Department today

BERRY BROTHERS
Paints · Varnishes · Enamels · Lacquers
Detroit 7, Mich. Walkerville, Ont.

BOSTON • JERSEY CITY • CINCINNATI • CHICAGO • ST. LOUIS • INGLEWOOD, CALIF. • MONTREAL • WINNIPEG • TORONTO

Quality Finishes Since 1858

skin or clothing, wash it off with water.) Rub a little vaseline on the shell threads and replace the head, using only hand power. Be sure that the gasket fits snugly against the shell neck.

CAUTION: If the extinguisher looks badly dented, or the seams appear weakened, do not discharge. Instead, remove the head and pour out the contents. Return to the manufacturer or his agent for repair.

Foam: As in the case of the soda acid, discharge by inverting. Remove the head and lift out the inner tank. Rinse the extinguisher thoroughly, draining water out through the hose. Dissolve the charging material according to instructions on the packages, using hot water for the *A* charge and lukewarm water for the *B* charge. Pour solution *A* into the inner cylinder and solution *B* into the outer tank, bringing both up to the filling marks by adding water. Replace the stopple on the inner tank and return it to the extinguisher shell. Replace the head, as for the soda acid.

Loaded Stream; Gas Cartridge: Since these different types operate by gas released from a carbon dioxide cartridge, they should not be discharged for the annual servicing. Remove the head and gasket and inspect parts as outlined under the soda acid. Remove the cartridge and weigh on an accurate scale. A loss of ½-oz. or more indicates leakage and a new cartridge should be inserted. If necessary, add water to bring the liquid in the tank up to the filling mark. Then replace the head.

Carbon Dioxide: Examine hose and horn for defects and see that the seal on the operating valve is intact. Weigh the unit. If there is a loss of weight, the extinguisher should be recharged. Recharging service is offered by the extinguisher manufacturer or his agents or by carbonic gas plants.

Pump Tank: Test by operating the pump several times, discharging the solution back into the extinguisher tank. A drop of thin lubricating oil may be placed on the piston rod packing. Bring up to the filling mark by adding water, if necessary.

Our Reconversion Start

THE first of the year (1945) brought a complete shuffling in our executive organization. We have a new President, new Superintendent, new Sales Manager and some new Vice Presidents in charge of this, that and various other things. There's been a moving around of key men.

The sudden end of the war and the rapid cancellation of war orders necessitated the placing of extra men (whom we had in our organization for the handling of the upped war work) into positions where their worth would be useful. This caused a further shuffling of personnel.

This, together with the return of our regular men who had been taken by the army (and who had to be taken care of by being placed somewhere in the organization) has caused some confusion in our establishment. Of course, we had been planning for all of this, but the sudden necessity of putting our plans into effect caused us to act before we were completely prepared for it.

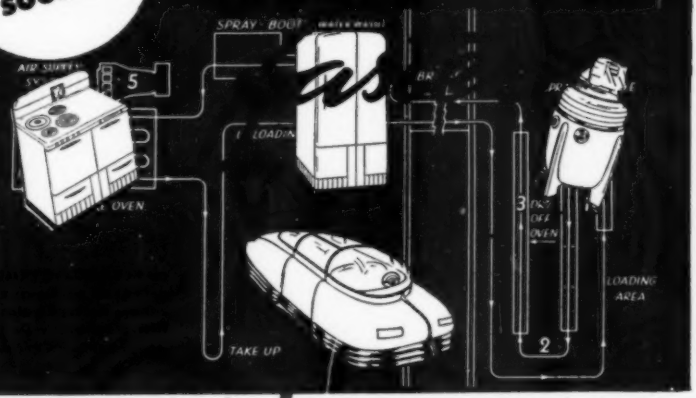
In my own department I was ready for the war's termination. Fact is I have been ready to function on peacetime production al-

(Continued on page 79)

Get into production sooner!

You can get a complete

DESPATCH FINISHING SYSTEM



HERE'S WHY!

Largest Engineering Staff. Despatch's staff is believed to be largest in the industry! Over 110 engineers from coast-to-coast, two large field offices, scores of assisting personnel.

Ample Production Facilities. One of the biggest plants in the industry. Over 50,000 sq. ft. of manufacturing floor space. Adequate stocks, latest machinery, modern methods.

Prompt Installation Service. Finishing System equipment is installed *immediately* after delivery. Saves time, guarantees efficient operation.

Experienced "Know How"—Sound, usable knowledge from 43 years specialized experience! Reduces delay, reveals sound shortcuts and gets equipment to your plant *faster!*

You'll save weeks or even months—of costly delay through *prompt delivery* of a Despatch Finishing System . . . and you'll get into production that much sooner. No priorities, no tedious unnecessary waiting. Yet you get newest mechanized equipment, correctly engineered for high speed, competitive peacetime finishing.

Take advantage of this unusual service! You'll save time . . . get easier handling . . . improved quality . . . more output . . . and lower finishing costs!

COMPLETE SYSTEMS OR SEPARATE ITEMS

- FINISH BAKING OVENS
- DRYERS
- SPRAY BOOTHS
- SPRA-BONDERIZERS
- AIR CONDITIONERS
- CONVEYORS

DESPATCH OVEN COMPANY
619 S. E. 9 Street, Minneapolis 14, Minn. — 211 N. LaSalle, Chicago 1, Ill.

Yes! We're interested in PROMPT DELIVERY of Finishing System equipment, such as:

☐ BAKING OVENS ☐ BONDERIZING UNITS
☐ DRYERS ☐ AIR CONDITIONERS
☐ CONVEYORS ☐ SPRAY BOOTHS
☐ Have your engineers survey our plant and recommend equipment for finishing such products as _____.

Name _____ Title _____
Company _____
Address _____
(STREET) (CITY) (ZONE) (STATE)

DESPATCH OVEN COMPANY
MINNEAPOLIS 14
CHICAGO 1

to speed your production and

to speed your production and

DU PONT DUCO IS A STANDOUT FOR CONSISTENT HIGH QUALITY.

It dries rapidly, permits handling within a few minutes of application, rubbing within a few hours. Excellent wearing qualities and resistance to spotting and crazing make DUCO a prime favorite for finishing all types of products. Its mellow beauty and depth of tone reflect the quality of a superbly fine finish that has helped step up sales for many a manufacturer. Check Du Pont DUCO point for point—for easy, fast application and outstanding appearance—for greater product acceptance.

TODAY DULUX IS READY TO WORK FOR YOU!

Its superior qualities of adhesion and durability make it an outstanding finish for products subject to outdoor exposure, to rough handling. DULUX resists the action of heat, alcohol, gasoline and oil. Its hard film is extremely resistant to abrasion. It keeps its good looks and provides exceptional protection where ordinary finishes fail. Make your product a better product—specify DULUX.

E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

DEPEND ON DU PONT FOR BETTER FINISHES

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

BAKING ENAMELS
LACQUERS
ENAMELS
SEALERS
PRIMERS

NEW PERIOD
WOOD and METAL
FINISHES

SYNTHETICS
VARNISHES
SHELLAC
FILLERS
STAINS
SUPPLIES

No. 282 LACQUER SEALER

A brand new formulation—high solids Lacquer Sealer that sands in one hour. Economical to use—geared for fast production schedules. Order a five gallon test sample at drum price for your production line.

NEW PERIOD LACQUERS

A complete line of superior gloss, semi-gloss, clear and pigmented lacquers. Many satisfied users of NEW PERIOD Lacquers give them their stamp of approval. A production sample will be sent upon receipt of your specifications.

NEW PERIOD PRODUCTION FINISHES

NEW YORK WOODFINISHERS SUPPLY CO. INC.
109 IMLAY STREET BROOKLYN, N. Y.
Established 1917

most since the war ended; but there is this to consider:

Younger men have been placed in responsible positions—the executive positions; and naturally they feel their responsibilities. They are doing a lot of things, all of which are directed toward making an impressive showing for themselves, as they see it.

I have been with the company 30 years. Some of these new men, recently placed in key positions, have been with us only during the war period. They do not know the whole picture regarding our peacetime production.

One of these new men, a very young man, has been given the job of revamping the entire setup for the factory. His associates in this job are also new men. None of them has had experience in handling peacetime production.

During the war, every one of these ambitious fellows became production line conscious. I have too, but it is not a "phobia" with me.

Just this week I had the opportunity to look over plans for our complete production line setup. There were four of us key men, together with the superintendent, the production line chief and one of his lieutenants at the meeting.

We had an interesting meeting, the result of which was that each of us got a set of plans to check over. We were invited to offer suggestions and changes. The set of plans presented to me have been checked, the drawings have been marked for the changes outlined, as I see them, and all have been returned together with my notations pertaining to the new setup.

I am with them in the essence of the setup, but I am decidedly at odds with them in their methods of handling some of the operations, and some of the moves they have outlined.

There will be another meeting after all of the marked drawings are returned. Then we will discuss the proposed changes—and from the manner in which these new fellows conducted themselves at the first meeting, I don't anticipate any serious difficulty in being able to put across changes that seem to be necessary.

The fact of the matter is that some of the things incorporated in the new setup, are things I have advocated for 20 years. Some of them are things that I have actually done with what means I had at hand at the time. For example, I arranged the progression of work on wheels through my department according to successive operations. The new proposal is a power line operated by push buttons.

There is much more I could write about our new setup, but as it is just now more or less in the preliminary proposal stage, it would hardly be appropriate.—SUPT. OF FINISHING.

FINISHES FOR *Soft Leathers*

FOR centuries men have sought to make leather more pleasing to the eye or more useful in service by altering the natural appearance of the stock. Various mechanical and chemical methods have been used to accomplish these ends. Tooling and embossing change the character and appearance of leather, while dye or pigment applications vary its color or conceal its surface defects. Leather has individuality. In spite of some remarkable scientific progress in the field, leather processing remains, in many ways, more of an art than a science.

Coloring Leathers with Various Types of Dye

The coloring of leather has been a most perplexing problem. Many tanning processes produce a leather that is lacking in attractiveness; and colors have long been used to give it a more pleasing appearance. At first, only natural dyes in a few colors were available, and the performance of these early materials was unpredictable.

The development of synthetic coal-tar dyes made a complete range of strong dependable colors available, and leather dyeing processes were greatly improved. Although color possibilities were expanded by the new dyes, color alone fails to produce the complete decorative effects desired. Unsightly defects commonly found in leathers are often more apparent and become increasingly objectionable when the piece is dyed.

Efforts to improve the situation led first to the development of materials known as "seasons" based on albumin, shellac or waxes. When properly applied to leather, these materials add somewhat to its gloss. Later, paints or pigment coatings were developed to fill and cover surface imperfections. Scarcity of coal-tar dyes during the first World War extended the use of these pigment finishes. In these coatings, pigments are incorporated with an adhesive vehicle or binder to make a material which, swabbed on the leather, dries to give a coating of uniform color.

Shellac, Wax and Paint Not Resistant to Wet Rub-off

The early pigment finishes were artificial in appearance and not particularly resistant to rub-off, especially when wet; but they produced a color coating of uniform quality which was highly desirable. Technical advances in the manufacture of pigment finishes have greatly improved their appearance and quality, but they are still not proof against wet rubbing, and their flexibility characteristics are not entirely satisfactory for use on soft leathers. *The modern demand is for a tight, abrasion-resistant finish, with stretch and flexibility, and without that very objectionable "painted" appearance.*

Nitrocellulose Lacquers; Now, Lacquer Emulsions

An important step forward in the evolution of leather finishes came with the adaptation of nitrocellulose lacquers to the coating of leather goods. Rohm & Haas, experimenting with these new coating materials shortly after the

What Air Pressure Are You Using?

Compare the air pressure you are now using with that needed to obtain an equal or better job with Eclipse Spray Equipment. If you are not using Eclipse Equipment you will generally find that pressures are excessive. This raises power costs, material costs and results in excessive off-spray. With Eclipse Low Pressure you get equal or faster speed and better finish.

You cannot realize the value of Eclipse Spray Equipment until you see it in use in your own plant. Ask to have an Eclipse Engineer call and show you. There is no obligation, of course.

ECLIPSE AIR BRUSH COMPANY
392 Park Avenue • Newark 7, N. J.

ECLIPSE

first World War, found it possible to produce a leather finish that is highly water repellant and resistant to abrasive action. Under the name of Orthochrom finishes, these lacquer coatings became well known in the industry. In applications where straight lacquer finishes are suitable, the Orthochroms give full satisfaction.

On fine glove leathers, however, where that slick "glovey" feel is desired, straight lacquer coatings have not been entirely perfect. It was primarily to meet the demand for a quality finish for soft glove and garment leathers that the Hydrholacs were developed.

The Hydrholac finishes are lacquers emulsified in water. Their very form, therefore, gives them certain merits not obtainable with regular solvent-type lacquers. For example, the Hydrholacs, being aqueous emulsions, are free from the extreme fire hazard which is present when straight lacquers, with their highly inflammable thinners, are used. They present no storage problems. Also, since they are cut to suitable consistency by water alone, they are economical, as well as convenient to use.

These merits, however, are all incidental to the outstanding characteristics of the Hydrholac finishes — excellent adhesion, fine "glovey" feel, and resistance to wet and dry rubbing. Straight lacquer finishes applied to soft glove leathers have not given entire satisfaction in all of these requirements simultaneously.

Easy Application of Emulsions, Increased Usefulness

An additional merit of the Hydrholacs is found in their ease of application. Two coats or even more, may be readily applied if desired. The material may be either sprayed or swabbed on by the same technique commonly used with other finishes. In addition, it has been found that by mixing a Hydrholac with the acrylic-base coat material, Primal, it is possible to produce a satisfactory finish on damaged or lower grade stocks of leather. Heretofore it was necessary to finish such skins by sealing the damaged grain with separate applications of a preliminary sealing coat, before the finish coats could be used.

More than two years of widespread industrial use have established Hydrholacs in their role as all-purpose finishes for glove and garment leathers. They produce a non-cracking finish of such quality that they are widely used in the manufacture of military goods conforming to rigid specifications. A full range of colors is available and excellent results are obtained on a variety of leathers.

Recent experiments have shown these modern finishes may also be suitable for shoe leathers, producing cleanable finishes of excellent characteristics.—*Rohm & Haas Reporter.*

Paul Hexter Returns to Arco

After three years of special camouflage and intelligence work with the Army Air Forces, Major Paul L. Hexter, returns to The Arco Co., Cleveland paint manufacturers, on September 15th, as vice president and director of the consumer sales division.

Major Hexter has spent the last 18 months on special missions in the European and Pacific theaters, previous to which he was in charge of the practical visual testing at the AAF Proving Grounds at Eglin Field.

He played an active part in the development of techniques for the night camouflage of aircraft to prevent detection by searchlights.

Before entering the service, Hexter headed the research which led to Arco's development of infra-red reflecting camouflage paints in general use by the Armed Service.

SHING

same
with
it has
a Hy-
e coat
ssible
sh on
ks of
neces-
ealing
arate
seal-
coats

wide-
estab-
le as
and
oduce
qual-
ed in
goods
tions.
lable
ained

nown
so be
oduc-
llent
Re-

rco

mou-
the
Hex-
eland
mber
or of

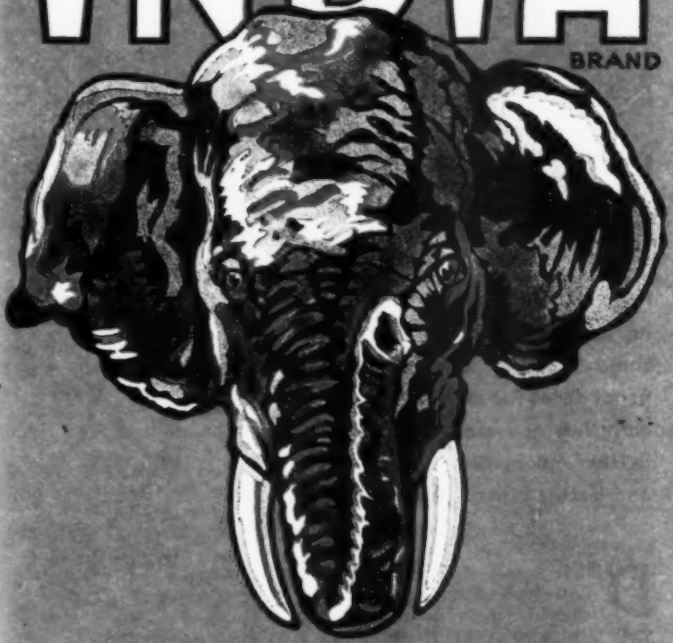
st 18
the
revi-
the
AAF

the
the
vent

xter
rco's
ting
by

INDIA

BRAND



THE ELEPHANT NEVER FORGETS

. . . so go the fables about this largest of all beasts who roam in the dark jungles of India.

There's a parallel here with the label on a can of paint bearing the head of an elephant.

Remember this label because the elephant head reflects the policy behind all India products. The manufacturers *never forget* their responsibility to the purchasers of finishing materials bearing this label, which are: a full measure of quality, rigid uniformity and a fair price.

Finishes for Every Purpose

INDIA PAINT & LACQUER CO.

5894 So. Central Ave. Los Angeles, Calif.

WOOD FINISHING PROCEDURES

by Edwin Hogstrom

Part II of an article wherein an experienced finisher gives some finishing schedules and procedures for producing more enduring and more attractive finishes on real fine furniture and better class cabinet work.

DEEP recesses, inside angles, fluting and certain oddly shaped pieces do not stain well with any spraying stain unless a real wet coat is applied. However, in applying a wet coat of stain, the softer or more open-pore parts of the wood absorb more of the stain than the denser, harder or more close-grained areas, and as a result they appear darker.

To overcome this trouble the article being finished, if it is small, can be dipped into a glaze of a darker color than the stain being used; and then all of the excess glaze should be wiped off, leaving a uniform finish over the entire piece. In the cases of bookshelves, occasional tables, table legs, or any large piece that may have deep carvings or flutings in its construction, the glaze can be sprayed over certain areas or over the entire piece. Some finishers use a pigment wiping stain for this purpose but where finer finishing is to be done, a glaze will be much better.

Glazing involves much hard work, therefore its use is confined mostly to the better class of furniture. A schedule for a sample walnut coffee table, with gun legs and base would be:

1) Apply toning stain over entire piece—heavier on gum wood in proportion to the walnut top.
2) A wash coat on top only.
3) Sand lightly.
4) Fill the top only.
5) Sealer coat over entire piece.
6) Sand entire piece.
7) Spray coat of glaze over entire piece.
8) Wipe the glaze coat.*
9) Spray first lacquer coat.
10) Spray second lacquer coat.
11) Rub the top. Steelwool the legs and feet (optional).

Tables of this type are generally finished in a genuine rubbed finish on the top and with a rubbed-effect-finish for the base and legs. To

* If highlighting is desired, do not wipe entirely clean, but leave a little glaze on the surface and then blend this glaze to form darker and lighter portions of the table and top. Use a brush for this work—say a 3-in. brush with bristles about 3 or 3½-in. long.

The makers of Johnson's Wax

announce . . .

WAX-O-NAMEL

(The patented WAX-IMPREGNATED enamel)

is now available for your products!

Your objective now . . . must be to launch and sell products of maximum efficiency and maximum beauty. You may not be able to put into effect immediately great changes in product design and performance characteristics. But nothing need now prevent you from immediately giving your product the finest finish ever formulated for household equipment.

Because women *buy with an eye for beauty*, WAX-O-NAMEL appeals instantly. To the eye its soft lustre is utterly unlike that of any other finish. To the hand, WAX-O-NAMEL has a satin smoothness. Along with its virtue of beauty, WAX-O-NAMEL gives extra protection: in the home it keeps its good looks longer and is easier to clean.

WAX-O-NAMEL presents no production problems. It may be applied and dried by any conventional method.

Give your products the extra sales magic of a factory-applied WAX-O-NAMEL finish. A Johnson representative can give you full information about this amazing product without taking up too much of your time.

MAIL THIS COUPON TODAY!

S. C. Johnson & Son, Inc., Dept. IF-105
Product Finishes Dept., Racine, Wis.
Gentlemen: Sure, I'm interested in WAX-O-NAMEL, and would like to talk to a Johnson man. I would also like to have a copy of the WAX-O-NAMEL brochure, "What Her Dreams Can Mean to You."

*Name*_____

*Title*_____

*Address*_____

*Company Name*_____

*Product*_____

JOHNSON'S WAX-O-NAMEL

Trademarks Reg. U. S. Pat. Off.

is made by the makers of **JOHNSON'S WAX** *(a name everyone knows)*

S. C. JOHNSON & SON, INC., Racine, Wisconsin

produce this effect use a flat lacquer as the last or top finish coat on the base and legs instead of gloss lacquer. Use a gloss lacquer for the top only, as this gloss lacquer will give a better rubbed finish and will give tougher wear.

Available since the end of the war is a clear flat lacquer in which a chemical serves as the flattening agent instead of one of the stearates. The result is an exceptionally clear finish. Use of this type of lacquer eliminates the need of applying two different lacquers on one piece of furniture, as for example, clear gloss lacquer on the top, and a flat lacquer on the sides and legs. By using this improved type of lacquer a finisher can select the sheen desired for the body of the article being finished, as in the case of occasional tables, and then rub the lacquer on the top to obtain whatever gloss is desired. A dead flat finish can be rubbed to produce a rubbed effect—semi gloss or piano finish. Your lacquer supplier can either furnish this material now or can obtain it in the near future.

Finishing Novelty Furniture Made of Mixed Woods

At present there is a large quantity of medium and low-priced knick-knack shelves, shallow boxes, wall shelves, novelties, magazine baskets, record racks, etc., being manufactured by many companies who before the war never dreamed of getting into this part of the home furnishing line.

This is so because high grade hardwood is scarce, especially the better furniture woods in the larger sizes. So, to keep going, some manufacturers have designed a number of novelties in which they can use different kinds of woods in one piece of furniture. The finished piece must look as if only one kind of wood was used, and it must be as uniform in color and grain as possible. Here is a schedule that will do this:

1) Toning stain (not too wet).

2) Dip or spray pigment wiping stain. (Stain to be several shades darker than N.G.R. stain.)

3) Wipe clean. (For best results let stain set a few minutes.)

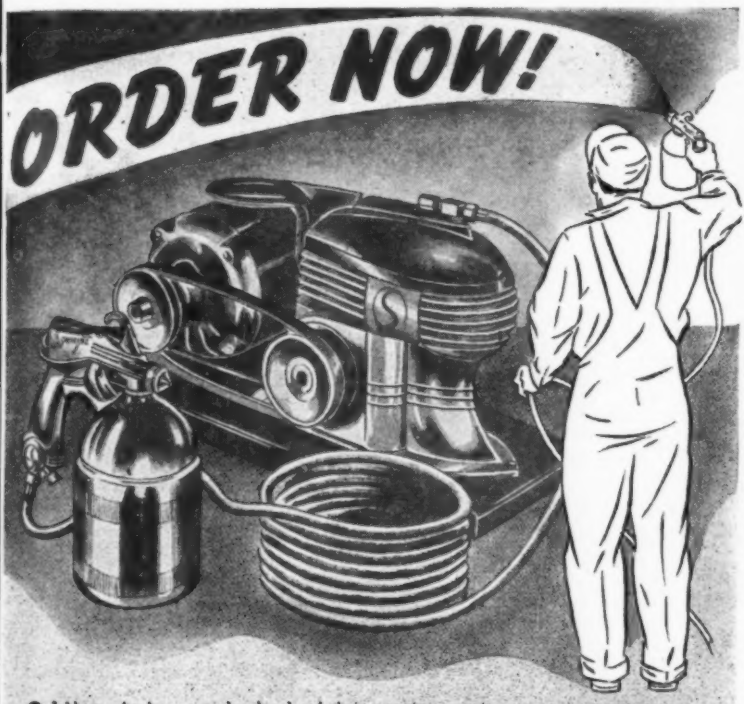
4) Spray sealer coat; sand.

5) Spray color coat. This takes the place of shading lacquer and it gives a uniform color over the entire piece. Right angle corners, recesses and carvings are all covered with a wet coat of this color-tinted lacquer. In drying, the tinted lacquer flows into any carvings or ridges, fluting, etc., and gives a highlighted effect. Any lacquer

Expert spray coating is essential.

manufacturer can supply this material, or the finisher can mix his own by adding any suitable shade of shading lacquer to his first finish coat. The approximate proportion would be about one quart of shading lacquer to five gallons of clear lacquer, more or less.

6) Spray second lacquer coat. Try to use as flat a finish as pos-



● Jobbers who have not already placed their quantity commitments for SPRAYIT Paint Spraying Equipment are urged to do so immediately. Orders will be filled just as fast as production conditions permit and in the order in which they are received. DEALERS are asked to keep in touch with their Jobbers regarding expected initial delivery dates. If you do not know the name and address of your nearest SPRAYIT Jobber, write and we'll gladly send this information to you at once.

SPRAYIT

PAINT SPRAYING EQUIPMENT, AIR COMPRESSORS, SPRAY GUNS, PUMPS, AIR TOOLS, INSECTICIDE SPRAYERS, SANDERS AND ALLIED FINISHING EQUIPMENT.

ELSCO

ELECTRIC MOTORS, GENERATORS, VALVES, PUMPS, HYDRAULIC CYLINDERS AND CONTROLS FOR AIRCRAFT, AUTOMOTIVE AND OTHER INDUSTRIAL APPLICATIONS

ELECTRIC SPRAYIT CO.

ELSCO SPRAYIT

sible. This will tend to make any defects or irregularities less noticeable than if a gloss finish were used as a final finish coat.

Making the Different Woods a Uniform Shade Gradually

You will notice that in the schedule just given, color is applied to the object three times. First, N.G.R. stain; second, pigment stain; third, first lacquer coat tinted with shading lacquer.

It would appear that the application of color would make the object extra dark. However it doesn't because in all operations the color used is not strong. The final color of the piece is obtained by progressive coloring, and as a result any number of different kinds of woods will blend into one uniform shade. I have personally finished a piece of work that was purposely constructed of sap gum, red gum, soft maple, tupelo, hard maple, beech, birch and elm; and when finished, all of these different woods appeared to be alike in color and texture. Let me emphasize this, however: Do not use too much color in each operation, but strive to get your final color progressively.

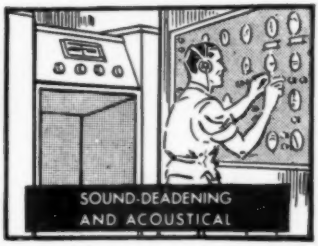
In the cheaper lines of small odds and ends of shelves, novelty wall racks and most premium furniture, a dipping stain (oil or pigment) is used; and after drying a colored sealer is applied. The colored sealer will offset the bleeding of the oil stain and uniform the wood at the same time. This schedule would be:

1) Dip stain (oil or pigment). Wipe and let dry.
2) Seal with colored sealer tinted to the tone of walnut, mahogany, maple, etc.
3) Sand (be careful of edges).
4) Spray first lacquer coat.
5) Spray second lacquer coat (if necessary).

Where the finest finish is wanted, and where the cost is secondary to quality, here is a schedule that will bring out the beauty of any wood, and it will last indefinitely. It is recommended for high quality radios, pianos, chests, etc.

Staining, Blending, Filling to Produce Uniform Coloring

Spray or brush a sap stain on any light parts of the veneer to bring up that portion of the wood to match the full color of the veneer. Blend in this sap stain with a piece of cotton or a wad of soft rag dampened with alcohol, until the light wood matches the darker part. Next, spray the toning stain of the color selected over the entire piece. If highlights are desired, spray those parts darker, and for the lighter sections spray only a stain mist. For parts not of the main type of wood, spray until the entire cabinet is of one uniform tone in color. Then spray wash coat over it. Let this dry and sand the surface smooth. Fill the top, sides and all open-pored woods with heavy filler. Now, using this same filler, reduce it with



Your designers should know about the many industrial uses of

flock

There are infinite possibilities for product designers in transforming surfaces by coating with Flock. These finely cut textile fibres will adhere to metal, wood, plastic, glass, cloth, paper, cardboard, etc. They form a cushion surface with a short or deep pile. They provide endless decorative color schemes. They are ECONOMICAL and SIMPLE TO APPLY. Our engineers gladly cooperate in studying the application of flock to your products. Request samples and prices.

FUNCTIONAL

Used in airplane, auto, and numerous other industries for—

SOUND DEADENING—TEMPERATURE INSULATION—INTEGRAL GASKETS—SHOCK ABSORBING SURFACE—NON-MAR SURFACE PROTECTION

DECORATIVE

Applied in various lengths and colors to wood, paper, cloth, metal, etc., the following effects are produced—

SUEDE LEATHER — FURNITURE UPHOLSTERY FABRICS—AIRPLANE AND AUTO UPHOLSTERY FABRICS—VELVET—VELOUR—MOHAIR

RAYON PROCESSING CO. of R.I. INC.

55 TREMONT ST., CENTRAL FALLS, RHODE ISLAND

Developers and Manufacturers of Printing and Coating Flock

two parts of filler reducer to make what is known as a "slush filler". Apply this "slush filler" to all of the close grained wood in the piece of furniture. Wipe the entire cabinet and let it dry. The purpose of the "slush filler" is to keep the softer woods in the same color harmony as the finer hardwood veneers. It also has a slight sealing action, due to the oil content of the filler. Let this dry thoroughly.

Sealer Coat; Sanding; Shading; Top Coats

SEALER: The sealer used on furniture of this quality should not be highly stearated to make it easy to sand, because in stearating clear lacquers for easy sanding, much of the toughness and plasticity of the lacquer is lost. It is better to do a little more work on sanding than to have the finish check or crack a few years later. The best method is to use a thinned clear gloss lacquer as a sealer, and scuff sand the first coat.

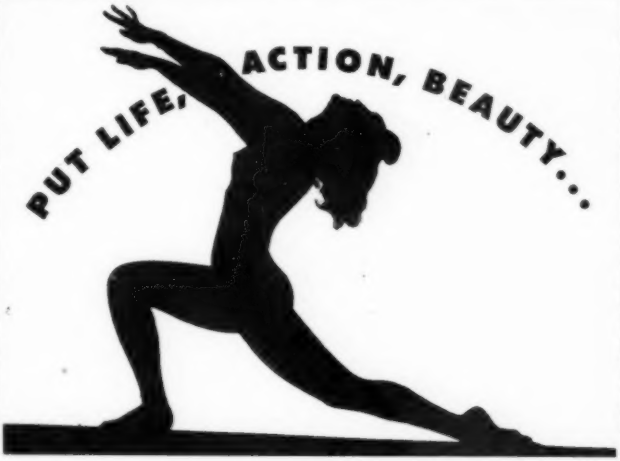
Any shading that may be necessary can be done after the sealer coat is sanded and cleaned. Apply two succeeding coats of clear gloss lacquer. After the proper length of drying time, wet-sand the entire piece, using a wet-or-dry sandpaper. After all surfaces have been sanded smooth, use an air gun to blow sand dust and dirt from all inside corners, angles and any places where the sanding medium could collect. Patch any damaged places and "line" the sharp edges or any rubbed-through places. Apply a third lacquer coat. Let dry and then rub to the desired sheen. This schedule would look like this:

1) Sap stain.
2) Toning stain.
3) Wash coat. Let dry and sand lightly.
4) Fill and slush fill.
5) Apply sealer coat.
6) Sand smooth; shade if necessary.
7) Spray second lacquer coat.
8) Spray third lacquer coat.
9) Wet-sand smooth.
10) Spray fourth lacquer coat.
11) Rub to final sheen.

The lacquer used should be of a quality that will stand 15 to 20 or more cycles of cold-check test. If this quality of material is used, and if the proper drying time is allowed between coats, the finish on any piece of furniture using this schedule will last for years and years. It will always be an object of beauty in the home or office.

The following schedule is used by a large cabinet manufacturing company on radio cabinets for a radio concern. It is a little different than usual but the final result is satisfactory.

1) Toning stain over all.
2) Wash coat walnut veneers.
3) Sand lightly on the walnut veneers only.
4) Fill top and sides. Slush fill base and stiles.
5) Shade base, stiles and edges.
6) Sealer coat.
7) Sand sealer coat. *(Page 92)*



Competition in civilian products is again on the march . . . the "everything goes" type of product is definitely on the way out.

Now, more than ever before, manufacturers can well afford to give serious thought to the appearance of the things they make.

To possess unusual sales appeal, products must have life, action, beauty. That means an outstanding finish.

The appeal of your product can be increased immeasurably with the correct combination of finishing materials expertly applied.

Our Creative Studio is ready to help you accomplish just that.

Will you write in order that we may tell you more about this service?

No Tampering with Quality

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS

Manufacturers of Protective and Decorative Coatings

PERM-A-CLOR

USED CONTINUOUSLY ON RECORD RUN

Aluminum and magnesium aircraft instrument parts required a highly stabilized solvent in the degreasing process. Except for periodic cleanout the DETREX DEGREASER illustrated has maintained production of thes important parts 168 hours a week since early in the war. This remarkabl record for cleaning soft metal parts—often a troublesome metal cleanin operation—is credited not only to the dependable performance of the equip ment but to the fact that PERM-A-CLOR has been used continuously.

PERM-A-CLOR and TRIAD solvents are stocked in every industrial are in the United States. There is a Detrex representative near you.

DETREX CORPORATION
DETREX
CLEANING ENGINEERS

DETREX Corporation

13019 HILLVIEW AVE.

DETROIT 27 • MICHIGAN

8) Spray first clear lacquer coat over all.

9) Spray second clear coat lacquer over top only.

10) Lightly sand the cabinet only (not the top). Use fine sandpaper to take off any nibs or dust from the surface.

11) Flow coat on cabinet only.

12) Rub top only.

The flow coater mentioned in No. 11 is a mixture consisting mostly of lacquer thinner, with a small percentage of matt finish lacquer and enough retarder to overcome the tendency of the material to dust in pocketed places. It gives the cabinet an exceptionally smooth finish in a rubbed effect, and when the top is rubbed to match this sheen, the result is indeed pleasing to the eye.

Finishes I Wouldn't Recommend; Quality Sacrificed for Cost

The following finishing schedule is somewhat on the same order, but this finish (which follows) will not last as long, and it is very likely to show white in any place that might be scratched. It will tend to be brittle.

1) Toning stain; dry.
2) Wash coat walnut veneers.
3) Light sand walnut veneers.
4) Fill; dry.
5) Sealer coat; dry.
6) Sand smooth.
7) Shade if necessary.
8) First lacquer coat over all.
9) Second lacquer coat on top only. Spray a 50/50 lacquer sealer and thinner over cabinet only (not the top).
10) Sand cabinet only using fine sandpaper.
11) Apply flow coater over cabinet only.
12) Rub top only.

You can see why the finish would be brittle or check in the future, because of two sealer coats with a regular lacquer coat in between. The finish on this cabinet looked 100% when finished, but it would not stand abuse.

This type of finish is really not standard. It is the result of some finisher's idea of how to save time at the expense of quality. Another variation of this finish is this:

1) Toning stain.
2) Wash coat; dry.
3) Light sand.
4) Fill; dry.
5) Sealer; dry; no sanding.
6) Second sealer coat; dry.
7) Sand to smooth surface.
8) Top coat. Clear gloss on top only. Spray flat lacquer on the cabinet.
9) Rub top only.

The idea behind the use of two sealer coats is to get a large build-up of finish. This hides the poor quality of the veneers and gives a false body to the finish. The resulting finish would appear to have "depth", but in a short time it would mark up very easily. It would craze and check if left near high heat or steam radiators and would appear cloudy and dull in a short time. I would certainly not recommend it.

The quickest and cheapest finish is not the best. Quality in finishing as in all other goods will show up in time. Of course, the cost of finishing is governed by the selling price, but I am sure that a few more cents spent on quality would build up and maintain a better reputation for the manufacturer's product, with resulting greater sales of his products.

NOTE: I have not used a tinted wash coat in any of these schedules, although the practice of coloring the wash coat is quite common. The only time I use the tinted wash coat is in making an "Old World Finish" on mahogany.

Letters from Readers

Makes Paint Adhere to Metal

We have just received your September issue of INDUSTRIAL FINISHING, and under the column "Letters from Readers" we notice that one of your readers is having difficulty in getting paint to adhere to a metal base.

Under separate cover, we are sending you a copy of our "Black Book" describing "Black Magic" and its related products; and among these you will notice an item called Witch Oil, on which we have enclosed several extra folders.

We believe this product might be of interest to the reader who sent in this problem and we will appreciate it if you would send him one of these folders or refer him to us. Upon receipt of his request, we will be glad to send him a sample of Witch Oil for testing purposes.—MITCHELL-BRADFORD CHEMICAL CO.

Roller Coating Machines

Will you please send me a list of names of makers of roller coating machines?

Some time ago I read an article in INDUSTRIAL FINISHING on roller coating, types of machines, etc. I would appreciate it if you would send me the name of the author and the company he is with, as I am interested in purchasing roller coating equipment. —G. T. ENGINEERING CO.

A list of roller coating machine manufacturers is being sent you by letter.—ED.

Luminous Paints

We are eager to get information on the use, application and handling of luminous paint, and notice the article in June 1945 issue by Arthur H. Jackson, of the Luminous Product Co., and ask that you please give us the address of this company, and any others that manufacture luminous paints—L. FIRE APPARATUS CO.

Address of American Luminous Products Co. is 6420 Marbrisa Ave., Huntington Park, Calif.—ED.

Formed Felt Wheels

In September issue of INDUSTRIAL FINISHING, we notice on page 108, you have quite a write-up concerning formed felt wheels. We would like to get a little more information about formed felt wheels and we ask you to kindly advise us whom we should contact.—N. DESK CO.

We are referring you to The Felt Association, Inc., 480 Lexington Ave., New York 17, N. Y.—ED.

Drum Elevators

Can you furnish us the name of the manufacturer of drum elevators, as illustrated in INDUSTRIAL FINISHING Magazine, page 21, of the February 1938 issue?—R. R. FURN. CO.

The manufacturer's name is Vol-U-Meter Co., 73 Wilbury Place, Buffalo 16, N. Y.—ED.

I. F. Articles in Demand

Would you please send us a copy of your reprints, "Zinc Chromate Primers" and "Finishing Aluminum With Paint Coatings"? Since our library copy of INDUSTRIAL FINISHING passes through many hands, we would appreciate reprints of the above articles for our permanent file.—NORTHERN ELECTRIC CO.

Copies sent.—ED.

Coating Before Stamping

Under the above title, on page 4 of August 1945 issue of INDUSTRIAL FINISHING, we notice an inquiry from the T. I. Corp., in which the writer is seeking information as to coatings and application thereof to sheet metal in advance of stamping and drawing.

For your information, a number of the representative steel manufacturers in this country are producing Bonderized black plate and Bonderized electro galvanized sheets which can be formed after the paint coat has been applied. Bonderized black plate has been extensively used by the can manufacturers as a substitute for tin plate during the war and probably

Assured Quality for Post-War Sales

The GUARDSMAN Technical Staff

. . . headed by chemists with Master's Degrees for research; and seasoned in the specialized field of *furniture finishes,* THE GUARDSMAN TECHNICAL STAFF possesses the experienced "know how" and advanced practical understanding to produce production finishing materials of the highest quality . . . leading furniture manufacturers will be using Guardsman Finishes.

Your Customers will be looking for

Guardsman Finish

an exclusive product of

Guardsman
A Beautiful Finish
Highly resistant to: boiling water, hot dishes, scratches, mars . . . alcoholic beverages.
GRAND RAPIDS VARNISH CORP.
GRAND RAPIDS, MICH.

GRAND RAPIDS VARNISH CORPORATION
GRAND RAPIDS, MICHIGAN

this practice will continue in the future.

Bonderized electro galvanized stock comes to the manufacturer already to form and paint, and can be stored for relatively long periods without oxidation.

In addition, the use of Bonderite as a lubricant in drawing operations is developing and, at the present time, several of the largest manufacturers of seamless steel tubes use Bonderite as an aid to drawing operations.

Bonderizing of sheet metal parts, which eventually are to be formed into rocker arm covers and other automotive parts, is a subject of investigation at one of the largest automobile manufacturers.

In view of the above, it is our opinion that the T. I. Corp. should be interested in our products and we respectfully suggest, therefore, that you refer them to us, as well as any other similar inquiries which you may receive.—PARKER RUST-PROOF CO.

Testing Laboratories

If possible, give nearest address to this locality (Philadelphia, Penna.) of some company or laboratory who would give us unbiased testing reports on panels coated with materials from various companies. We are interested in scuff, humidity and salt spray tests.—H. MFG. CO.

Nearest one we know of is Pittsburgh Testing Laboratories, Pittsburgh, Penna.—ED.

Tumbling Barrels

In your August issue we notice that you furnished some information regarding the manufacturers of tumbling equipment. Will you please pass on to us a list of these manufacturers? —B. L. CO.

Information furnished.—ED.

Pre-Treating Metals

In your August issue of INDUSTRIAL FINISHING, an article written by Gilbert C. Close on "Pre-Treating Metals" refers to the use of "Lithoform". Could you please give me the name and address of the manufacturer of this material?—R. P. FINISHING CO.

It's American Chemical Paint Co., Ambler, Penna.—ED.

An article titled, "Pre-Treating Metals for Quality Finish", in the August issue of your magazine, referred to "Metal Prep" and "Metaseal". Will you please tell us the names of the companies manufacturing these products so that we may contact them? —S. F. CO.

"Metal Prep" is a product of Neilson Chemical Co., Detroit, Mich. "Metaseal" is a product of Surface Finishing Products Co., New Haven, Conn.—ED.

Conveyors Wanted

Will you be kind enough to tell us where we can procure the modern conveyor system described in the article by H. W. Chester, "Finishing Chairs on a Production Basis", as published in the September issue of INDUSTRIAL FINISHING, page 68? — M. K. CO.

In a letter we are giving you the names and addresses of a number of concerns which can supply conveyor systems, including Palmer-Bee Co. of Detroit, Mich., who loaned us the photographs used to illustrate Mr. Chester's article.—ED.

Painting Metal Awnings

We have a problem in painting our metal awnings which are made of galvanized sheet steel. These awnings are exposed to the weather and the heat of the sun. We have had considerable difficulty with paint failures. Can you offer any suggestions as to the preparation of the galvanized steel to receive the paint, and also a suitable priming paint for use on this product?—L. M. CO.

Before painting, pre-treat the galvanized metal with "Galva Prep" or some similar product for improving paint adhesion to the metal. There are several enduring paint materials suitable for your work. A synthetic bake enamel would stand severe outdoor service in almost any climate. In a letter we are listing a few manufacturers of materials that should serve your purpose satisfactorily.—ED.

Letter to My Boss

Dear Boss—Let's have a heart-to-heart talk. I know from experience that it is not your regular practice of doing this because you are a business man—and in business, emotions and heart-to-heart talks are out; but I ask you to at least give this some thought.

We have suddenly become partners. In what? In what every adult in the world is talking and thinking of today and that is, "Post War".

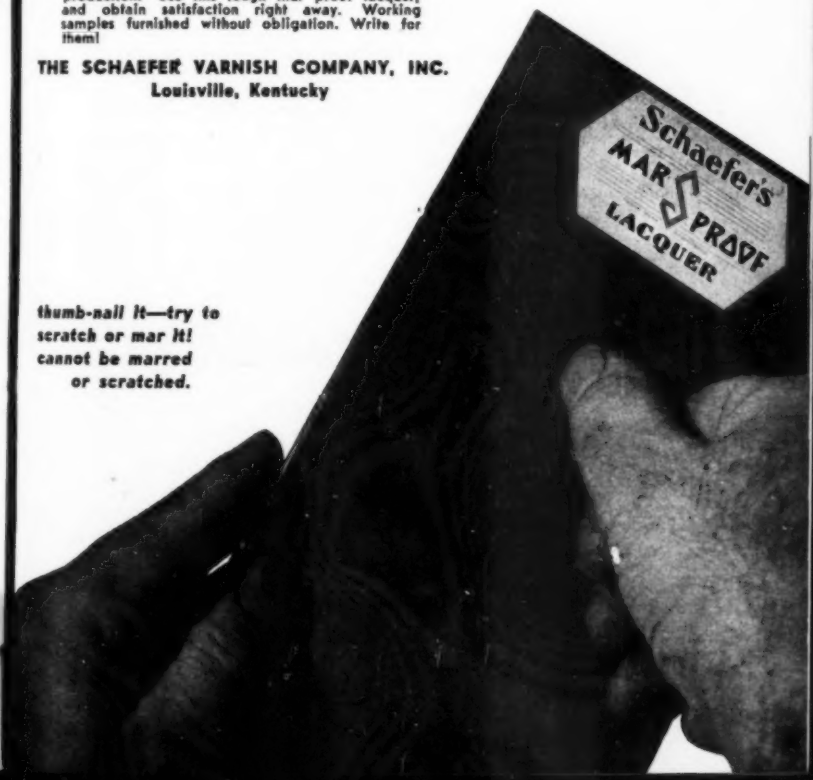
Your worries are: "What kind of new and vigorous competition, and

It's Tough—tougher than the ordinary lacquers!

Yes, here's a tough piece of goods, a lacquer finish that will meet the most critical requirements of postwar production. A nation hardened to bulldozers, tanks, battleships, monster planes and subs, will accept nothing less than a product finish that endures the elements, and the hardships of constant usage. Schaefer's Mar Proof Lacquer is a finish that cannot be marred or scratched. Made in either clear gloss rubbing or satin finish, it produces a splendid transparent coating of full depth on maple, walnut, gum, mahogany and other cabinet woods. Economical; gives plenty of coverage; dries quickly. Our Mar Proof Lacquer Sealer is recommended with it for a first-coater.

Now get off to a good start on your postwar production. Use this tough mar proof lacquer, and obtain satisfaction right away. Working samples furnished without obligation. Write for them!

THE SCHAEFER VARNISH COMPANY, INC.
Louisville, Kentucky



thumb-nail it—try to scratch or mar it! cannot be marred or scratched.

what kind of market potentialities will there be"

My worries are: "Will the Boss start cutting my salary, or replace me with inexperienced labor in order to make more profit?"

We both worry and both probably have had some pretty bad nights trying to find answers to our riddle.

My solution, after impartial thought, is this. The Boss will need me more than ever before. He will need loyal experienced men who are alert to the latest and more efficient ways of doing things. He will need me because I am not a bull-headed person, and am flexible toward improvements and take them in my stride and produce more, for more profit to the Boss.

The only fly in the ointment is; Does the Boss see it my way? Does he realize that I am ready to do anything to help him keep successful? Does he know that I must have a decent living and a nice home life to keep my efficiency? If I had the answers to those questions, Boss, I would be still happier under your employment. Can you answer me? — NORMAN ABRAMOVICH.

Paint Mixing Equipment

I will appreciate your sending me the names of manufacturers of paint mixing equipment, such as would be useful in an industrial finishing department. I am particularly interested in the manufacturers of paint shakers and drum agitating equipment.—S. D.

Information given.—ED.

Graining Colors

I have purchased a graining machine from Graining Equipment Co., of Nashville, Tenn., and I wish you would give me the names of some manufacturers that can furnish me with the graining ink or color to be used with this machine. This machine is a mechanical graining machine with an intaglio plate, with a rubber roller. Also, I want to know where to obtain material for cleaning this machine. —W. H. F.

Lacquer for Leather

We would appreciate receiving the same information as was requested by C. Aircraft Co., in Letters from Readers Section, page 118, August 1945 issue of INDUSTRIAL FINISHING. Our request, as was theirs, is stated as follows:

"We will appreciate receiving information on lacquer for leather finishes. Can you supply us with data as to whom we could contact in order to secure same? We would like a quotation as to price . . . and perhaps some reading material on above."—COTTAGE CRAFTS.

We note in your August issue, page 118, that C. Aircraft Co. requests information for leather lacquers. We are producing a large amount of leather finishes in our New England plant and would be pleased to assist this concern, if you would kindly forward us their name and address.—UNITED LACQUER MFG. CORP.

Color Stripes on Canvas

Please send, care of writers' attention, what data you may have or can secure covering the subject of applying colored paints in stripes on new unpainted canvas—the best system an awning cloth processor can use. If you know of any manufacturer of such machinery, also kindly supply name and address.—S. V. Co.

We are referring you to manufacturers of striping tools and equipment. —ED.

Measuring Paint Coatings

I refer to your interesting editorial on Accurate Measurement of Paint Coatings, in July 1945 issue of INDUSTRIAL FINISHING. In this article you refer to a film-thickness gage and a recording spectrophotometer. I would like to obtain particulars of these two pieces of apparatus.—A. G. (England).

Names and addresses of the manufacturers are being sent you.—ED.

How a Dutch Lacquer Concern Sabotaged the Invaders

Through a technical book shop in Amsterdam, we have been subscribers to INDUSTRIAL FINISHING Magazine. The last number we got was June 1940. Now we are asking you for the back issues from July 1940, and we want to continue our subscription.

Maybe your American readers are curious to know what a Dutch lacquer factory passed through during the period from May 1940 to May 1945. In brief outline we will sketch our vicissitudes.

Directly after the occupation of Holland in 1940, all of the raw materials came into the hands of the Government for distribution. For each order we had to ask the Government Bureau of Chemical Products (Section Paint and Paint Raw Materials) for a license to be permitted to supply.

On forms of application, customers

United's
Furniture Lacquers

FURNITURE production schedules require a uniform lacquer that flows freely and dries rapidly and hard with no pinholes or orange peel. It must have a good body in gloss, satin or dull.

United's Furniture Lacquers have been formulated to meet these and many other exacting requirements of the furniture manufacturer.

A generous size working sample will convince you of United's outstanding quality.

LACQUERS—THINNERS
METALLIZED FINISHES
SYNTHETICS AND
SPECIAL COATINGS
FOR ALL SURFACES

United Lacquer Mfg. Corp

General Offices, Laboratory, Factory: LINDEN, N. J.

NEW ENGLAND MFG. DIVISION, EVERETT, MASS.

had to give information about the purpose for which the lacquers were to be used. Only for urgent purposes were licenses given. Because the Government officials sabotaged the German instructions, and because many licenses for less urgent things than German war purposes were procured, our enemy appointed a German supervisor. Sabotage, however, continued but with more ingenuity.

During the time that Dutch workers were picked from the least war-urgent industries and sent to work in Germany, Dutch industrialist assumed airs of importance for war's sake. We did the same at our factory.

Under this sham, forms of application had to be filled in with deceptive information, and likewise monthly schedules had to be changed. Government officials passed our false information on to the Germans, and in most instances, knew how to give things a twist so that the Jerries believed them. In this manner we managed to sabotage the German orders and moreover we pulled it off in such a way as to keep our workers together.

In spite of German prohibitions, we kept a wireless set in our office and daily listened to Allied news bulletins. Two watchmen were ready to give the alarm if Jerries showed up in our neighborhood. All members of our staff had maps with the newest notations about Russian advances. Feelings swung up and down, according to the war situation. All Holland was looking forward to the invasion on the western front.

In the spring of 1944, when things were getting lively, we lived only for the thought of the coming invasion. Invasion thought dominated our daily work. We slackened and were regularly listening in, awaiting the big news. As D-Day came, there was but one thought: "We are going to be liberated in a short time." But it was no short time for us. Things turned out differently.

Our factory . . . is situated between the rivers Rhine and Waal. The great push of the Allied army in 1944 stopped south of the river Waal. We entered the winter under increased pressure of the German yoke. For the most part we lived in cellars because of the daily battering from Allied forces. We had a very bad time.

The Germans were short of petrol, (gasoline). One day they entered our office to pick up our raw materials, particularly the thinners. The Germans were eager to get these liquids and made arrangements to come back with motor trucks as soon as possible. A couple of days later they arrived with three large vans.

When we told them we had no drums they stood speechless with amazement. A paint factory without shipping drums! We explained that for motor fuel one had to use clean barrels and that we had none that were clean. Next day they returned with clean containers. We told them we had no pumps. They were furious! It was sabotage they declared. We were stupid Dutch cheese heads! We kept our (cheese) heads cool and replied that we only had electric pumps, but had no electric current because of the bombardment of the power station.

They slunk off with their big trucks. After two days (luckily) a new team arrived. Along with them, they had brought large hand pumps and the necessary barrels.

With a great show of trying to be of service we informed them that our liquids already were mixed with other raw materials, so that they would run the risk of having their engines damaged or destroyed if they used this mixture Nevertheless they considered it possible to use some liquids for their big motors. We shook our heads doubtfully and suggested that they try only a little for that purpose. For the remainder they insisted upon us distilling the liquids. (This remainder consisted of many thousands of gallons, ready for use as motor fuel, but the Jerries didn't know it.)

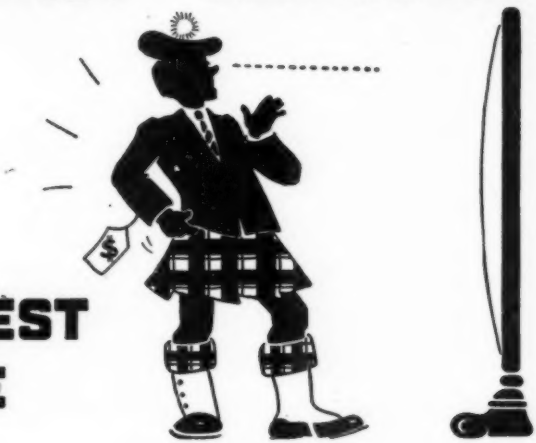
We promised to do all we could, and constructed a sham distillery. We told the Germans that we could not manufacture more than five gallons a week with this defective apparatus. For the present they were satisfied. (If they had known the whole distillery was a fake we would have been thrown into prison.) In this manner we supplied them, until the capitulation, with only about 250 gallons. Meanwhile we saved several thousand gallons of valuable thinners.

In January, 1945, our little town had to be evacuated In December the local SS commander gave his orders for evacuation, but people sabotaged the order. They packed their belongings, departed and, within a couple of days, secretly returned to their homes. All was in great disorder. Our local underground forces were in regular contact with our allies and transmitted all of the German secrets.

The fatal evacuation on the 20th of January 1945 was the result of reprisals against the population for their several "misbehaviors". The SS commander ordered the civilians out of town within a couple of days. If anyone was found in the town after the 20th of January he was to be shot.

The departure of the population was a miserable spectacle. The directors and staff of our factory, with all their families, had to depart. We had no good means of transportation. We constructed little cars from factory trucks, and quickly made some sleds. On those unsound vehicles people transported their most beloved belongings. *(to 102)*

LUXURY COATING



MODEST PRICE

WHEN NITROCELLULOSE Lacquers first came into widespread use—20-odd years ago—they were much more expensive than the finishes they replaced. But their many advantages more than offset the price differential.

Today many people still think of lacquer as a "luxury," despite the fact that costs have been substantially reduced while quality has steadily improved. Lacquer is the most logical coating material for thousands of industrial products . . . ask your supplier!

C.S.C. makes no lacquers or thinners but supplies solvents and plasticizers to manufacturers of protective coatings.

CSC

COMMERCIAL SOLVENTS

Corporation

17 East 42nd Street, New York 17, N. Y.

Luckily we were quartered in the neighborhood of Teil, and daily we had opportunities to go to the factory to keep watch. This was allowed by the local commander (without doubt on account of our sham distillery). We could keep watch over our stocks of raw materials and keep an eye on the Jerries, lest they should hit upon the idea to make tests of our thinning liquids before being "distilled."

Because of its favorable situation outside the town, our factory did not suffer much from the battering. On the other hand, Teil was in ruins as a result of the vehement battering with shells, shrapnel, phosphor grenades, incendiarism and V-1's (out of their course).

After the German capitulation, we returned home and found a desolate town. Houses were in ruins or heavily damaged, furniture was stolen, etc. Notwithstanding all the misery we suffered, our people are happy because now we are liberated from the German yoke.

In our factory, work is started again. No slackening now. We are working out new plans for the future. Our establishment supplies big industries in Holland with nitrocellulose lacquers and synthetic lacquers—in short, the finishes for radio cabinets, transmitting apparatus, wood and steel furniture, and so on. Also, we make a lacquer that can be applied to metal discs for use as phonograph records.

Since we are subscribers to INDUSTRIAL FINISHING Magazine, we would be pleased if you could place us in contact with manufacturers of spray equipment, hot spray apparatus, tapes, polishes, waxes, new finishing products, etc.—concerns who would like to sell their apparatus or products in our country. Faithfully yours—(A Company in Holland).

Industrial Designer Takes in Associates as Partners

Walter Dorwin Teague, Industrial Designer, with offices in New York and Los Angeles, announces that he has taken two of his associates into partnership. Mr. Robert J. Harper, who joined Mr. Teague's organization in 1935, is Director of Design in the New York office and Mr. C. Stowe Myers, who has been with Mr. Teague since 1934, has the same responsibility in the Los Angeles office.

During their association with Mr. Teague the new partners have assisted him in many projects for a long list of the leading industrial companies of the country, ranging from the designing of cameras and hydraulic pumps to major office and exhibit buildings. The partnership will continue to operate under the name of Walter Dorwin Teague.

Seghers to Direct Paint Sales in N. Y. for P. P. G. Co.

C. E. Seghers, Jr., has been appointed Director of Paint Sales of the New York branch of The Pittsburgh Plate Glass Co. Mr. Seghers will organize and direct the company's postwar paint sales expansion program in metropolitan New York.

From 1933 to 1937, Mr. Seghers was supervisor of dealer sales, with headquarters at the company's Milwaukee paint plant. In 1937 he was appointed Assistant General Paint Manager at the general office in Pittsburgh.

Mr. Seghers joined the Company in 1919 at its Dallas branch, after serving as a field artillery captain in World War I.

Mid-West Abrasive Co. Moves Offices into New Plant

In line with its program of postwar expansion, the Mid-West Abrasive Co. has established its central executive offices in Owosso, Mich., making that city the headquarters for one of the largest abrasive manufacturers in the nation.

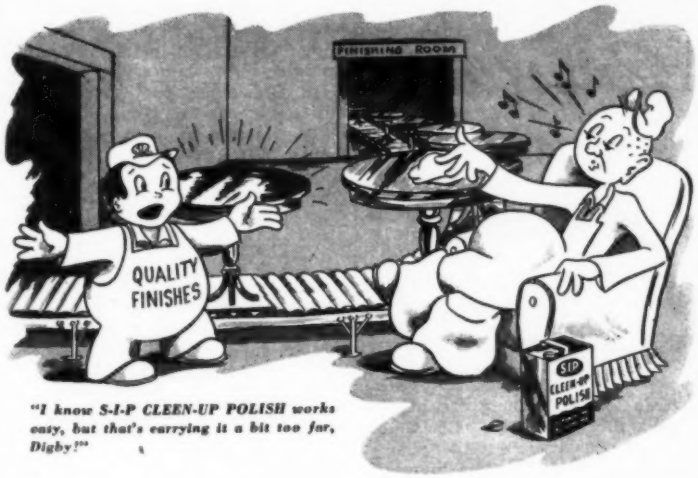
Construction of the offices at the Owosso plant began last fall. The project now has been completed, and the transfer of headquarters from Detroit has been accomplished, according to J. T. Jackson, Mid-West president.

The Owosso plant is the largest of the two under operation by Mid-West in that city and in Rochester, Penna.

To Train Leaders for the Furniture Industry

The first full college course for training technical and administrative executives in the furniture industry has been established by the University of Michigan, at Ann Arbor, Mich., according to an announcement by the National Association of Furniture Manufacturers, which is responsible for bringing about this development. Beginning with the Fall term starting November 1, young men who want to make a career of furniture manufacturing now may obtain a combined academic and technical course leading to a bachelor's or master's degree, as in any other profession.

The "furniture" course is designed to give students a well-balanced understanding of the problems they will encounter as "front office" executives, also as sales, production and plant managers, cost engineers, personnel managers, and general administrative executives.



"I know S-I-P CLEEN-UP POLISH works easy, but that's carrying it a bit too far, Digby!"

FOR A LABOR-SAVING FINAL CLEAN-UP, USE

S-I-P Cleen-Up Polish

Just "wipe it on and wipe it off." Off come finger marks, rubbing compounds, dust and lint!

S-I-P CLEEN-UP POLISH brings out the full beauty of the finish, too—increases the sales appeal of your product. Contains no harmful solvents—leaves no waxy residue.

S-I-P CLEEN-UP POLISH is made and guaranteed by the makers of the famous WEAR MASTER Finishes. Send for your FREE TRIAL BOTTLE today—no obligation.

STANDARD INDUSTRIAL PRODUCTS, INC.

FREE TRIAL

S-I-P CLEEN-UP POLISH

Just clip this coupon to your letterhead and mail it to us for a generous free sample of S-I-P CLEEN-UP POLISH. No obligation.

EVANSVILLE 4, INDIANA

Questions and Answers

Painting or Coloring Small Tools

We are manufacturers of such hand tools as cold chisels, star drills, punches, etc., and wish to paint these products to give them increased sales value in the post-war markets.

Since we have not done anything in the field of tool painting before, we have no knowledge of how these items can be painted, and therefore desire to know whether you can furnish us with all of the necessary technical data regarding the proper type of paint equipment, and methods required for handling tools for dip-coating or spray painting. Our production basis is 3000 to 5000 chisels per day.

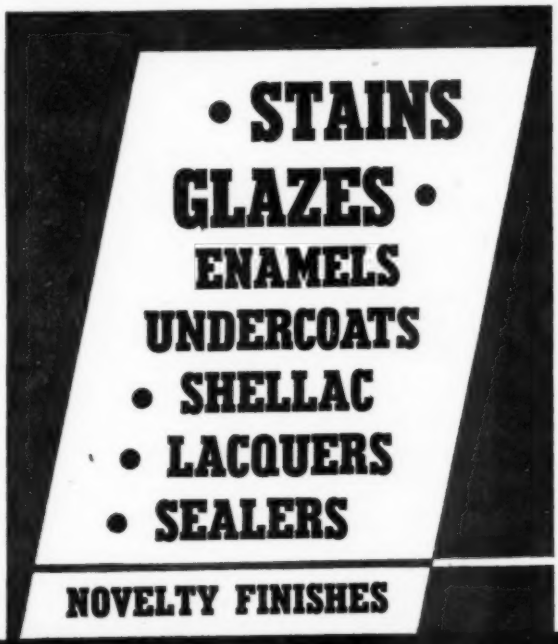
One of the main problems that confronts us is to completely cover the entire tool with paint, without leaving any evidence of markings on any tool from the holding or carrying device used to dip or spray coat, and air-dry or bake, whichever the case may be.—B. N. Co.

This inquiry can lead us into quite an argument. When it comes to coating these small all-metal tools without leaving work holder marks on them, the problem at present is: "Can it be done?" By working with your paint company's service man, the answer is, "yes"; but don't expect the paint company to do it all for you. This is an experimental problem and the cost must be on your shoulders. The simplest method would be to tumble coat or whirl coat the tools with paint especially formulated for the job.

Place a number of tools into a tumbler or centrifugal machine, and add the correct amount of paint to cover the tools with a given thickness. The tools, continuously moving in the tumbler, will be completely coated.

The reason I mention working with the paint service man is because if he can actually see your problem, he can work with his company's technicians in formulating a suitable paint. The paint should be a fast drying material, with a heavy solvent to give you this action. When the tools are tumbling in the closed tumbler, the paint is wet and is kept wet by the solvents in the paint. As soon as the tools are covered with paint, the grating at the bottom of the tumbler can be opened to allow the heavy solvent, which is heavier than air, to drain away. As soon as the solvents have drained away, the tools will dry quickly.

Another method would be to suspend the tools in a 2-position clamp. For the first position the tools are tightly clamped into a frame, with their cutting edges down and projecting outward. The clamp closes around the head end of the tools. The frame is then dipped into the paint, either by hand or machine or with an overhead conveyor, stopping before paint reaches the frame. This dip results in the tools being coated



IN STEP WITH THE TIMES

Industrial Finishes

that make the most of available raw materials to give you greatest durability, together with attractive appearance and economy.

• FOR APPLICATION BY ALL METHODS

JAMES B. DAY & CO., CHICAGO

for about three fourths of their length. When this partial coating is dry, the clamps on the frame are released and the frame is turned upside down. By inverting the frame and releasing the clamps we have placed the tools into their second position—for dipping their cutting ends.

If the clamps open just a little, and if the cutting edge of each tool is wider than its head end (as is the case with most star drills) then the tools will not drop out of the frame for the No. 2 dip. However, if this isn't the case, then the tools will have to be clamped tightly in the frame for the No. 2 dip, which will coat the parts left unpainted by the No. 1 dip.

Yes, you will have two dipping operations on each tool—No. 1 with the cutting edges down, and No. 2 with the head ends down, or vice versa. Both dips can be in the same colored paint, or the No. 2 dip can be in a different colored paint for added attractiveness.

But remember, you are not selling these tools to the housewife, and you are not selling an article of beauty. You are selling essential utility tools to do a certain job; selling the mechanic who is going to use them, and if his livelihood depends upon the tools he uses, he will want to see what he is buying. *He wants to see the steel, not a pretty paint job.* Upon seeing completely painted tools, his natural reaction will be: "What are they trying to cover up?"

I would suggest a clear lacquer coating to protect the steel from rust, and perhaps a spot or band of bright color to arrest attention or identify it as a certain make or brand of tool. I believe, if the name "Sheffield" were stamped into a tool, and then covered with paint, there would still be doubt in a mechanic's mind as to the quality of steel underneath the coating.—W. BEACHAM.

To spray paint on cold chisels, star drills, punches and similar tools would be wasteful of paint material.

Coating such tools "without evidence of any markings on them from the holding or carrying device used", would seem to preclude a dipping procedure unless a special dipping machine might be conceived, utilizing magnet contacts to hold the tips of the tools, and regulating the dip to come just above the point of complete submersion. The coating material would have to be a lacquer or a material equally quick drying, so the magnets could be promptly released for succeeding dippings. Basket dippings, centrifugal whirling, tumbling, etc., would leave some surface blemish on the coated tools from contacts in the draining and drying operations.

If you contemplate "a production basis of 3000 to 5000 chisels per day", you ought to utilize a much more simplified procedure than is available in any type of applied coatings. Built-up coatings of paints, enamels and lacquers, or anything similar on steel cutting tools, would be easily and quickly abraded, even before the tools could reach the user, and the overall coating of same would make a bad appearance on the cutting edges of the tools, requiring those parts to be re-ground after finishing.

I believe that the logical finish "for increased sales value", as you express it, would be the penetrating satin-like black finish imparted by submersion of the tools in hot chemical solutions which will color their entire surface, but produce

The NEW No. N-3

ELECTRO-KNIFE"

"Registered and Copyrighted"

by FINISHINE

PRICES

Single Knife, @ $11.85
6 or more, @ $11.35
12 or more, @ $11.00

Switch Included
FOB Syracuse, N. Y.

Our Latest Model Electric Burning-In Knife for use with FINISHINE LACSTIX, PORCELSTIX, SHELSTIX, etc. Featuring the air-cooled Cork Handle, Tite-Grip Rubber Plug with 10 feet of rubber cord, Gripper Clip for hanging up. Light as a feather—designed for easy handling! Each equipped with a Rocker Handle-Black Casing, Feed Through-Single Pole On and Off Cord Switch.

Our "ELECTRO-KNIFE", Electric Burning-in Knife, was complimentarily featured in "Industrial Finishing" explaining its excellent features.

Its purpose is to burn in STIX—Stick Shellac, Stick Lacquer, Stick Porcelain, etc., and reduce Fire Risk. Much SAFER to use than the old style Alcohol Torch and Spatula in that it "PREVENTS FIRE" endangering Stock and Operators. It may be used on 110-120 Volt Circuit A.C. It has a new type of Refractory Core Construction with correct Heat Control which makes it practically impossible to burn out. Its maximum Thermostatically Controlled Heat is coordinated with the Stix Melting Point. A great Labor and Material Saver—"Stix-Mends" may be made neater, smoother and quicker. It comes equipped with a hand forged Copper Spoon Type Blade which may be bent or ground to any shape desired; copper being used as it will spread and fill in Lacstix, Shelstix, Porcelstix, etc., with less adhesion. A High Grade Tool, Made Right and Guaranteed to Produce Satisfactory Results. No finisher's kit or work bench is complete without it.

Also Famous Brands of

BURNING-IN-STIX

Approx. size Porcelstix, 3¼x⅝x⅜; balance of brands 7¾x⅝x⅜ packed 12 all one color, or assorted to package.

Special **Lacstix** is made of the finest materials, and will not lift or shrink in or under lacquer. Is free of color specks. Made of special resins that withstand the fast solvenizing action of high powered solvents used in modern synthetic and lacquer finishes. Helps finisher repair surface in one operation.

Special **Shelstix** is made from the choicest shellac gums and resins, and will be found far superior to many brands of shellac sticks. If you haven't tried this Finishine SHELSTIX, you will be wise to put in an order right away, to make certain that your repair work will be of the highest grade.

Special **Porcelstix** is the item you can depend upon to repair chipped porcelain, marble or tile. Does it within ten minutes. Easy to use and comes in assortment of fourteen permanent colors. Porcelstix is made from a unique combination of special resins that puts it in the high quality class. Is waterproof and will stand tremendous amount of heat.

INISHINE LABORATORIES, INC.

SYRACUSE 4, NEW YORK

no build-up on same. All sharpened cutting edges would remain exactly the same as when the tools were originally made. And the finish would not chip or abrade.—E. E.

Wanted: A Paint to Prevent Electrolytic Action

We want the name and address of a company that has a metallic base paint or compound to be used on galvanized surfaces in contact with brass, copper or bronze parts to protect them from galvanic or electrolytic action.—L. R. Co.

I would suggest that the galvanized surfaces be given a phosphate treatment to passivate the zinc, and then coat the surface with a good 100% phenolic spar varnish. The coating should be baked if possible, although good air-dry phenolic finishes are available. This will completely eliminate any electrolytic action.

Almost any paint company in the country will be able to supply such a finish. It is important to passivate the zinc so that the finish will maintain its adhesion.—PAUL O. BLACKMORE.

Coating on Engineering Layout Boards

In a number of the engineering departments of large automobile factories in America, a full scale drawing of each model is made on a painted aluminum layout board. The finishing system used on these sheets is sufficiently hard to take pencil lines and the surface is matt enough to prevent the easy removal of these lines by friction, over a period of months.

Can you tell us what type of paint is used on these sheets and what procedure is in use for its application? Is the metal surface pretreated in any way? Are the 10-in. squares or datum lines inscribed through the film to the base metal, or are they painted on the board in a different color? If so, what type of material is used.—*Pressed Steel Co., Ltd., England.*

Editor's Note: This question and an answer to same appeared some months ago in Industrial Finishing, but here is another answer to it from R. F. Boulton, Chief Draftsman for The Glenn L. Martin Co., Baltimore 3, Md. (Manufacturer of Aircraft).

Having pioneered the development and use of our exclusive photo loft template process for several years before the recent conflict, we are gratified to inform you that this process has been adopted in recent years by several large and well known manufacturing concerns. Essentially the process consists of drawing the image in a manner similar to, but more precise than, ordinary drafting on a smooth sheet of material and then reproducing same photographically on other material. Since the original must be "photogenic", so to speak, and since the reproduction must be accurate to scale, it is essential that both the original and the reproduction have the proper surface.

The original image is ordinarily drawn on a sheet of aluminum .040-in. thick, which has been previously coated with "Preparakote". "Preparakote" was developed jointly by a nationally known paint and lacquer manufacturer and our company. For the original, two coats are applied and then the sheet is baked. Two more coats are applied and allowed to dry

—and Ready Now to Serve You

These satisfying Hilo Protective Coatings are now ready to serve you.

Although a few raw materials remain tight, we are able to supply these coatings and many other coatings you have used in the past.

Send your orders now.

HILO VARNISH CORPORATION
42-60 Stewart Avenue, Brooklyn 6, N. Y.
2420 Washburne Ave., Chicago 9, Ill. • Park Sq. Bldg., Boston 16, Mass.

naturally. This gives a surface which has a hard under coat and a comparatively soft top coat which, in turn, permits lines to be drawn in pencil and yet, at the same time, to cut into the surface and enable the lines to retain their sharpness over a period of time.

The photographic reproduction of the original can be made on any suitable material, such as aluminum or galvanized sheet, Masonite, plywood, or any other material which has a comparatively smooth surface. This material receives four coats of "Preparakote" without baking, as the only requirement is that the photographic copy give a sharp image to scale after being coated with photographic emulsion.

With respect to the datum lines, these may be applied either mechanically or by lithographing. Mechanically, they can be applied either by drawing the datum lines simultaneously with an accurately assembled machine which holds the datum lines within .005-in., or they can be applied singly by the use of an accurately machined straight edge and table stops. Either method is satisfactory, although we prefer the latter. The lithograph process for applying these datum lines was pioneered by the Service Engraving Co. of Detroit, Mich., and while it produces an excellent job, we prefer the mechanical method for cost considerations.

Should you care to know more in detail about our photo loft process and the finishing of our templates, we will be pleased to answer any further questions which you may have or, better still, if you happen to be in this vicinity, do not hesitate to call on us and we will be pleased to show you the company process. We would appreciate your addressing any further communications to Mr. Charles Niles, Business Projects, at this same address.

Screen Process Developments

Referring to H. H. Menefee's Guest Editorial on the above subject, in April 1945 issue, we are interested in obtaining more information on the following points mentioned:

1) More screen process developments ready.

2) Information on the new dyes mentioned.

3) Positive photographic system for the making of fine-line screen stencils.

4) The application of hot dyes on portions of plastic materials for decoration purposes.

5) Motor-driven squeegees.

6) New adhesives and glues that can be screened.

7) New metal mesh to replace silk.—*L. E. Goldsmith, Supt. of Technical Services for The Myer Emporium, Ltd., Adelaid, South Australia.*

Editor's Note: The following reply is from Harry L. Hiett of Prairie State Products Co. (Screen Process Equipment):

1) It is rather difficult to judge, at this time, what developments will occur in the near postwar future. However, we can expect some changes after release of the more important materials incorporated into the new synthetic colors, varnishes and plastics. There has been no change in the rubber situation as far as rubber for squeegees is concerned; it's still a poor grade of synthetic.

2) A new development in screen process textile printing dyes is

MARIETTA

FINE *Finishes*

The formulation of superior finishes for quality furniture, creating the utmost in beauty and protection while meeting practical, exacting production requirements, is a specialized field. Marietta Fine Finishes are produced by specialists to fill your special needs. If you want a different, improved finish—one that will smooth operations and save finishing time and expense—the specialized experience and ingenuity of American-Marietta technicians will produce the one best answer.

AMERICAN-MARIETTA COMPANY

Marietta Chicago High Point

"Sher-dye", a product produced and sold by an advertiser in this publication. "Sher-dye" is composed of an oil-carrying base. Its use broadens the field to the extent that usual types of photographic and hand-cut stencil screens can be used.

3) There are about 18 different types of photographic stencil screen methods. However, the dry carbon tissue and lighting sheet gelatin process are still predominant where accuracy and fine detail, in both line and halftone, are to be in effect.

4) This is strictly a matter of hot embossing in which a sheet of paper similar to decalcomania carries the design printed in a medium (into which the dyes are incorporated) corresponding to the plastic material to be printed, after which the paper is removed with a lye solution.

5) Most types of mechanical stencil screen printing presses in use today have an adjustable automatic power-driven squeegee.

6) Regular stencil screen overprint varnishes are still the most practical for an adhesive coating for blocking, tinseling glow beading, etc. Any type of cold glue will act as a screening adhesive if it contains sulfanated castor oil (turkey red oil) foamed, glycerine or other retarding agents.

7) Stainless steel wire 150, 200, 250 and 300 mesh can be successfully used for small screens such as are used in ceramic bottle printing. However, wire cloth does not possess the resiliency of good silk, consequently it stretches or is dented easily, even by drawing the finger nail over it after it has been stretched. This damage will render it unsuitable for use. Wire cloth is not practical for large screens and long printing runs.

Color Aids Workers

SEVERAL paint concerns employ color experts who survey industrial plants, tell where "right" hues should be splashed to keep up the workers' spirits and increase their output.

For instance, say the experts, light blue gives a sense of spaciousness. Where women workers predominate, the paintologists prescribe turquoise and beige tints on walls, equipment to cut eyestrain, waste.

Warm yellow and red are advised for dark corners and sections of factories which must be kept cool, green for rooms where indoor temperatures must run high. — PATHFINDER MAGAZINE.

New Product Designs to Attract Women

Andrew J. Higgins announces that J. Gordon Lippincott & Co., industrial designers of 500 Fifth Ave., New York, won first place in the Higgins Industries' national competition for a series of final designs to be used in the production and styling of postwar products.

Lippincott's winning design will first be used, Mr. Higgins stated, on the PT Junior Cruiser, an adaptation of the famed wartime PT boats, which will shortly be offered to the public in a series of over a dozen models in various sizes.

Another of the Lippincott prize designs will put the finishing touches, in ingenuity and styling, to the Higgins Camp Trailer, which will be ready for the market within a short time.

"From now on," declared Mr. Higgins, "we are catering to the American woman. She is the purchasing agent whose business we are going after. The way to sell boats to the American public is to provide style and interiors appealing to American Women."

"Of course, the hulls must be strong and seaworthy," he added. "But the interiors must be as comfortable and as pleasant as her home. And to fit the pocketbook of the mass market, we are designing our boats for assembly-line production methods. That means big sales, and big sales mean more jobs for veterans. That's why we are going after this in a big way."

Use the Dip That Doesn't Drip!

O'Brien's Gray Primer 7062 takes the drip out of dipping! This unusual baking primer completely eliminates beading. It actually flows backward after draining, levelling out to a smooth, clean surface.

Non-skinning, non-settling, and extremely stable in the dip tank, O'Brien's Gray Primer 7062 performs beautifully under lacquer, synthetic enamels and government specification finishes. Its adhesion to metal is extraordinary. Its applied film is flexible, durable, salt-resistant.

Write us for this primer's outstanding record of performance in dip tank finishing. Ask us to quote on your requirements.

O'BRIEN VARNISH COMPANY, SOUTH BEND 21, INDIANA

O'BRIEN

INDUSTRIAL FINISHES

SINCE 1878

NOT THE MOST – JUST THE BEST

Materials Supplies Equipment

New Electric Sanders

The Detroit Surfacing Machine Co., 7433 W. Davison, Detroit 4, Mich., announces new models XL50 and XL90 of the "Easy" reciprocating electric sander. New features include floating pistol-grip type handle, a more powerful motor, perfected balancing, slide-type switch mounted on side of handle, and numerous other improvements.

It is claimed that the new units are practically vibrationless, cut much faster, and are exceedingly simple to operate.

In both models the machine retains its original straightline, reciprocating action that mechanically duplicates the back-and-forth motion of hand block sanding, rubbing or polishing. The short rapid stroke develops but little heat. It has proved to be highly desirable for a wide range of new and refinishing applications on plastics, metal, wood, slate, leather or composition.

Detachable sanding pads are a unique feature of the Model XL90. A simple snap-action device permits instant attachment of the correct type of pad for the job. To insure maximum efficiency on flat, curved, wet or dry work, pads are furnished of felt, rubber, and other materials of desired shape, size, and degree of flexibility.

Model XL90; sanding pad detached.

Chemical Engine Produces Fire-Killing Foam

Extinguishing hot oil fires without danger of reflash is the function of the new Foamite Challenger 40-gallon engine, according to its manufacturer, American-La-France-Foamite of Elmira, N. Y.

It produces high-quality fire-extinguishing foam and delivers it fast, all in less than three minutes —over 450 gallons of it.

The Challenger is approved by both Underwriters and Factory Mutual Laboratories, and is now in production.

Aluminum Treating Process

The Enthone Co., Dept. IF, 442 Elm Street, New Haven, Conn., announces a new process called "Alumox" for chemically treating aluminum and aluminum alloys. The "Alumox" treatment produces a corrosion-inhibiting coating that serves to protect aluminum against corrosive atmospheres such as salt

Quality...versatility...economy...always have been outstanding characteristics of Egyptian finishes.

Through war years Egyptian's high standards steadily have been maintained, with production largely on finishes for war goods, of course.

Now as American industry swings back to production for peace, "quality" and "Egyptian" continue to be synonyms.

We invite inquiries regarding your finish needs, present and future.

THE EGYPTIAN LACQUER MANUFACTURING COMPANY
ROCKEFELLER CENTER, NEW YORK 20, N. Y.

EGYPTIAN
SPECIALIZED PRODUCTION FINISHES

spray; it also presents an excellent base for organic finishes.

The process is claimed to be particularly suitable for non-copper containing aluminum alloys. On such alloys, coating can be obtained with salt-spray resistance of 250 or more hours.

The process requires no electric current. It consists in immersing the aluminum in a dilute solution of "Alumox" salts, operated near 210°F. from 2 to 15 minutes. The finish obtained is grayish-green—an attractive finish in itself. Further details are given in a booklet available on request.

Cleans Brushes Quickly by Mechanical Spinning

To quickly clean brushes used for spreading fillers, stains and paint materials, two rotating devices with suitable holders are now available. One is operated by a hand crank; the other is driven by a small electric motor which resembles an electric drill. The electric spinner has a universal motor and operates from an electric light cord.

The wet brush can be spun within an empty or partially filled container. This spinning cleans it quickly and effectively.

By changing fittings on the electric spinner, it can be used for stirring paint or driving a drill. These tools are products of Nashway Co., Ltd., 1401 W. Pershing Road, Chicago 9, Ill.

New Wrinkle Introduces New Resin Finish Composition

New Wrinkle, Inc., of Dayton, Ohio, announces a laboratory development for the benefit of its nearly 200 licensees—a new resin emulsion base wrinkle composition which can be applied to both flexible materials and to inflexible materials such as metal.

This unusual accomplishment has been made possible through the use of an aqueous resin emulsion base in combination with oils having conjugated double bonds. No cooking is necessary in preparing the composition.

The resulting finish produces a wide variety of wrinkle textures and patterns. When applied to paper, fabric, felt, or other flexible bases or to metal it can be baked at a relatively low temperature. This makes for economical use, both in production of the wrinkle finish composition and in its application.

The laboratories of New Wrinkle, Inc., are conducting an extensive research program in connection with the development of new types of wrinkle finishes for the benefit of the industry and of the using public.

Elastic Decals

Meyercord "Elasti-Cals," the decalcomania with a 2-way stretch, banned from civilian production during the war, are available in limited quantities for all uses.

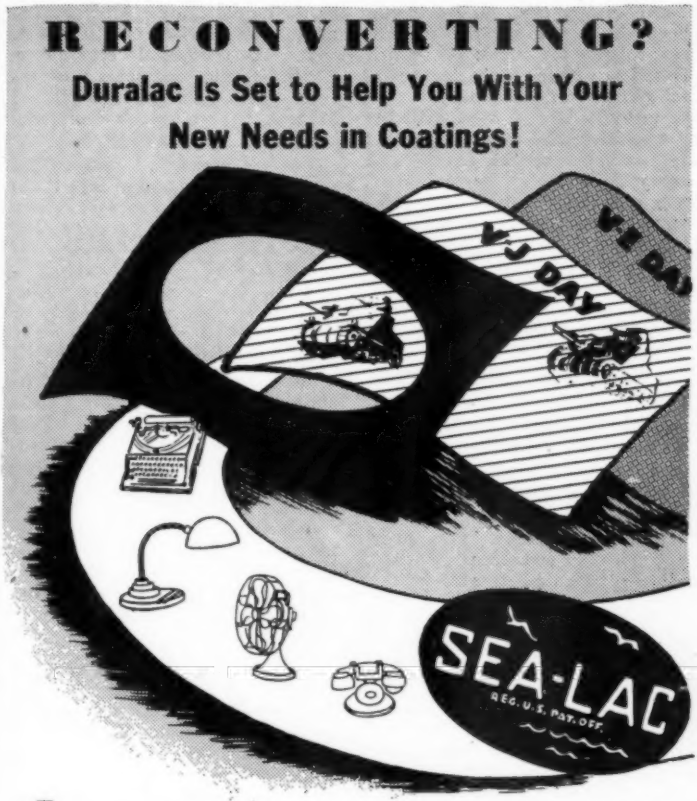
Elasti-Cals, made of stretchable material and applied to rubber and other elastic surfaces, are used as name plates, trade marks and colorful decorations, and had reached a wide use before the government took over Meyercord's entire output of this product.

Meyercord technicians, however, continued their contacts with designers of postwar products, and a number of new and some startling designs are expected to blossom out soon.

Elasti-Cals utilize elastic mater-

RECONVERTING?

Duralac Is Set to Help You With Your New Needs in Coatings!



AT a moment's notice, we can step in and aid you in working out the specific finish you require. That's because we are a flexible organization, offering a tailor-made service. We proved our versatility to the complete satisfaction of many harrassed manufacturers throughout the tough war years. Today, with the release of long-absent materials, we're geared to do an even better job of trouble-shooting . . . Let us know what your reconversion program calls for in finishes. We'll give you the benefit of our specialized skills and knowledge.

DURALAC CHEMICAL CORPORATION

LISTER AVENUE NEWARK 5, N. J.

ials in printing and manufacturing operations under a patented process to provide markings which stretch to several times their normal dimensions. During the war the army and navy used available supplies for life rafts, fuel cells and similar material. Peace-time uses will include rubber footwear, bath mats, baby clothes and equipment, sporting goods and a variety of other products.

Makes Wood Harder and Resistant to Acid

Structures exposed to rapid deterioration by contact with acid solutions or fumes can be made acid-resistant through use of "Asidbar," a plastic-impregnated wood developed by Koppers Wood Preserving Technical Department, Orrville, Ohio.

In one application in a spray-type pickling machine, Southern yellow pine guides treated by this process are subjected to a 10% to 15% sulfuric acid at temperatures of 180° F. The acid-resistant wood is sound and firm after 18 months service. Untreated wood in this same application lasted only two to three weeks. Fume ducts exhausting the acid fumes from the same machine were built of acid resistant treated wood, and have given similar service. Metallic alloy flues lasted only a short time. Untreated wood fell apart in these ducts after two weeks exposure.

The plastic treating material is liquified by high temperatures and the wood being processed is immersed in the compound in sealed retorts. The plastic is forced deeply into the wood fibers by high pressure at temperatures sufficiently high to hold the compound in the liquid state. After an impregnation period of 10 to 20 hours, the compound "sets up" to a plastic-solid distributed in the cells of the wood as it is allowed to cool, to produce the material known as "Asidbar."

The treatment increases the weight and hardness of wood, and gives it a black surface which need not be painted; resistance to wear and abrasion, water, and chemicals are considerably increased. The properties of "Asidbar" make it suitable for many requirements of severe service conditions at temperatures to 180° F.

Wood thus treated can be installed with ordinary wood tools. In applications where wood expansion or shrinkage are detrimental the treatment substantially decreases changes of shape and dimension when subject to alternate wetting and drying. Wear resistance also is increased by the increased hardness and other properties given to the wood by the plastic which fills its fibers.

Corrosive-Resistant Paint

A new industrial maintenance coating for greater protection against corrosion is announced by Michigan Chrome & Chemical Co., 6340 E. Jefferson Ave., Detroit 7, Mich. Known as "Miccroloid," this corrosive resistant is compounded from thermo-plastic resins. It is a tough resilient, firmly adhering film said to offer remarkable resistance to the most severe corrosive conditions.

Miccroloid is expected to find immediate use in widely varying industries: For plating equipment, acid and alkali rinse tanks, structural steel, factory walls and floors, pipe lines, air ducts, blower equip-

Does the rising tide of consumer demand find you ready?
Are you prepared for quantity production?
Can you successfully meet competition?
The answer in a large degree will depend upon finishing materials that are . .
. . accurate
reliable
practical

● War is a bitter experience, but some of its lessons learned under pressure are valuable—our business is no exception—new services, new products, developed in war and available for peacetime production mean greater value for the industrial user.

stille-young

manufacturers • **lacquers, fillers, stains, enamels, paints**

Chicago 14

ment, ventilating systems, process piping and tubing, water storage cases, water-softening and refrigerating equipment, photo equipment, etc. It is effectively used on metal, concrete and wood surfaces —and the exterior of tanks heated up to 150°F., and even higher temperatures.

Miccroloid's most effective application is where a painted surface comes in continual contact with water or corrosive chemicals. It is softened or dissolved by ketones, esters, aromatic hydrocarbons and trichlor-ethylene. It is very resistant to standard gasolines, oils and aliphatic hydrocarbons.

Miccroloid may be brushed, dipped or sprayed in the conventional manner. On wood and concrete, where a primer coat is required, Miccroloid with 25% to 50% Miccroloid reducer is recommended. This forms a perfect bond for succeeding coats of Miccroloid, retaining all its outstanding qualities of toughness and resiliency.

Chadeloid's "Seal of Quality" for Licensees

The Chadeloid Corporation of Dayton, Ohio, announces the adoption of the "Seal of Quality" in connection with the license system of Chadeloid Corporation under its permanent stain patents.

This seal is issued to Chadeloid licensees for application to the wood products treated by Permanent Stains. The stains manufactured by its licensees are tested in the Chadeloid laboratories so that they may be certified.

The "Seal of Quality" guarantees to the general public that permanent stains made under the Chadeloid patents are of the highest quality. Such stains are used on furniture, radio cabinets, boats and other wood articles. The "Seal of Quality" can be applied by the users of the stains to their products. An extensive national advertising campaign is contemplated to acquaint consumers with this program for their protection.

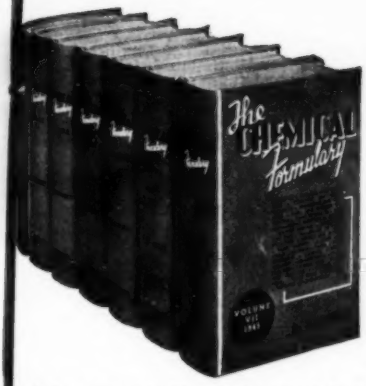
Chadeloid has 49 licensees among the prominent manufacturers of paints and varnishes. Its license system is open to any manufacturer of paints and varnishes.

Acid-Resistant Aprons

A new lightweight fabric apron coated on one side with a black vinyl resin, is resistant to acids, alkalis and oils. These workers' aprons are available in two sizes. They are products of The B. F. Goodrich Co., Akron, Ohio.

Resumption of its pre-Pearl Harbor expansion program will be undertaken by Minnesota Mining & Mfg. Co., St. Paul, Minn., in the immediate postwar period with construction of a new 400,000-sq.ft. "Scotch" tape addition to its St. Paul plant, and a colorquartz roofing granules plant in the South.

Every year, flammable solvents, such as gasoline, naphtha, benzene and acetone, cause fires and explosions and destroy property worth millions of dollars in American business establishments.



The New 1945

CHEMICAL FORMULARY

Vol. VII—$6.00

Compiled by a Staff of Experts

EDITOR-IN-CHIEF, H. BENNETT

VOLUME VII of THE CHEMICAL FORMULARY includes thousands of the best and most practical formulae, compiled by authorities and experts in each field of industry.

It is an entirely new book, complete in every detail. Each formula is new and different. Not one formula contained in the previous six volumes is repeated in this book.

From thermoplastic adhesives to insecticides, from leather dressings to vegetable preservation, from invisible inks to refractories, from anti-freeze solutions to metal finishes—this valuable book describes and explains the latest commercial methods and processes.

It will keep you up-to-date with the newest developments and trends. It will bring you a great fund of ideas, information, data and formulae that would otherwise be accessible only after consulting dozens of books.

A PARTIAL LIST OF SUBJECTS COVERED

Rubber & Latex	Furs	Animal Remedies	Skins	Marking Compositions
Adhesives	Automobile Specialties	Welding	Boiler Compounds	Soaps
Polishes	Removing Stains	Insecticides	Glass	Cleaners
Lubricants	Bleaches	Pharmaceuticals	Textiles	Waterproofing
Drugs	Ceramics	Oils & Fats	Fibres	Metals
Farm & Garden Specialties	Deodorants	Liquors	Beverages	Alloys
Resins	Disinfectants	Dyeing & Coloring	Flavors	Glues
Cements & Concrete	Laundry Specialties	Fluxes	Rustproofing	Pastes
Synthetic Resins	Dental Products	Explosives	Metal Treatments	Fireworks
Plating	Etching	Paints	Food Products	Waxes
Pyrotechnics	Fireproofing	Lacquers	Enamels	Mildew Proofing
Solders		Varnishes	Cosmetics	Chemical Specialties
		Leather	Inks	

Own the Complete 7-Volume Set of THE CHEMICAL FORMULARY

Volumes I, II, III, IV, V, VI and VII comprise the entire set of THE CHEMICAL FORMULARY. These combined volumes contain more than 4,000 pages of useful, tested formulae from every important industry. Although the contents covered in each volume may be on the same subject, there are no duplications between any of the volumes. By having seven volumes you will have, at your fingertips, an up-to-date formula reference library of commercial formulation.

Each volume is $6.00—the complete set is $42.00

AVAILABLE AT LAST!

CUMULATIVE INDEX

For Volumes I, II, III, IV, V and VI of THE CHEMICAL FORMULARY—$4.00

With the comprehensive index, covering all the formulae included in the complete six volumes of THE CHEMICAL FORMULARY, you can now find what you want when you need it. It indicates at a glance the volume and page number for each item you want. The material has been arranged in strict alphabetical order to facilitate quick reference. Numerous cross references will instantly lead the user to all possible subjects relating to formulae or processes which are of interest.

INDUSTRIAL FINISHING Magazine

1142 North Meridian Street **Indianapolis 4, Ind.**

Booklets Catalogs Circulars

Impregnating Varnish

Information about a low-baking (300° F.) impregnating varnish for electrical equipment is contained in a bulletin entitled, "Dow Corning Varnishes", published by Dow Corning Corp., Midland, Mich.

"Felt Facts" Bulletin Free

A bulletin, "Felt Facts", is now being issued at frequent intervals by The Felt Association, Inc., 480 Lexington Ave., New York 17, N. Y. In this bulletin the association calls attention to new and interesting uses of wool felt in a wide range of manufacturing processes. The Association desires to obtain additional photos and interesting data on such uses.

Electrostatic Spraying Booklet Free

A new booklet that explains and illustrates the principles and practical application of electrostatic spraying and electrostatic detearing (automatic removal of tear drops from dip-coated articles) is available for free distribution. Every industrial user of paints and lacquers for products should have a copy of this timely and authoritative information. Write Harper J. Ransburg Co., Electric Coating Divn., Indianapolis 7, Ind.

Economy in Air Conditioning

A new data folder by the W. B. Connor Engineering Corp., 114 E. 32nd St., New York 16, N. Y., contains an interesting case history of the application of Dorex Air Recovery equipment to an existing system. With facts, figures and installation drawings, Merle Bennett, Chief Engineer of the Detroit Bank Building, tells how fuel, energy and equipment were saved. Besides the case history, it contains data on ventilation requirements and a typical cost comparison chart showing the savings in money, material and equipment on a new installation. The folder is of the standard file size and may be kept for ready reference.

American Walnut Bulletin in Full Color

The rich beauty of American walnut, as used in fine furniture, is portrayed in full colors in a bulletin recently published by the American Walnut Manufacturers Assoc., 616 S. Michigan Ave., Chicago 5, Ill.

Incidentally, for those interested in guns, this bulletin illustrates 25 different models used by the armed forces in the late war.

The American Walnut Manufacturers Association represents the leading mills manufacturing walnut lumber and veneer. Its purpose is to aid those who design, manufacture, distribute and use cabinet-wood products. It has many publications of both general and specific interest.

Bulletin on Chemically Oxidizing Aluminum and Its Alloys

"Alumox", a chemical process for producing corrosive resisting coatings on aluminum alloys, is described in a 4-page illustrated brochure published by The Enthone Company, Dept. IF, 442 Elm St., New Haven, Conn.

Metal Finishing Bulletin

A 4-page bulletin by Technic, Inc., 39 Snow St., Providence 3, R. I., reveals information about the company's consulting and testing service, and certain metal finishing products and processes.

New "Synthetic Organic Chemicals" Book Available

The 12th edition of the catalog "Synthetic Organic Chemicals," has just been published by Carbide and Carbon Chemicals Corp., a Unit of Union Carbide and Carbon Corp. "Synthetic Organic Chemicals" presents in condensed form, up-to-date information on the properties, uses, and specifications of more than 160 products sold by this Corporation. This edition includes data on 34 products not included in previous editions and

DUPOR

CHEMICAL CARTRIDGE RESPIRATOR No. 10

Worn by thousands to guard against hazardous

PAINT SPRAY FUMES

Ideal protection against paint, lacquer, enamel vapors. Cartridges are of colored plastic. When ordering, specify WHITE for Code A; BLACK, Code B; YELLOW, Code AB. (No corrosion as with metal cartridges—no crushing and spilling chemicals as with paper cartridges.) Price $54 doz.

Sample $4.50 pp.

H. S. COVER
SOUTH BEND, INDIANA

CEL-U-LAK No. 5354

Fast drying, clear protective film for metal surfaces

5354 CEL-U-LAK gives a thin, colorless, tough adherent film of great resistance to rust and tarnish . . . Widely used for tools, hardware, sporting goods, lighting fixtures, etc. . . . Can be reduced 100% to 200% and applied by dip or spray.

The Varnish Products Co.

5204 HARVARD AVE. **CLEVELAND, OHIO**

contains new chapters on acetals, sulfur compounds, polyethylene glycols, hydroxyethol cellulose, and plasticizers —making this book more than ever an important reference manual of industrial aliphatic chemistry. Revised tables also contain shipping information and specifications of particular value to purchasing agents. Copies of the 12th edition of "Synthetic Organic Chemicals" (F-4372) may be obtained by writing to Carbide and Carbon Chemicals Corp., 30 E. 42nd St., New York 17, N. Y.

Industrial First Aid Book Free

First aid workers in industry now have available a guide for emergency treatment of injured persons in a booklet "Standing Orders for First-Aid Workers in Industry." While it was prepared by American Mutual Liability Insurance Co. for its industrial policyholders, copies are available to others as long as the supply lasts. The company's address is 142 Berkeley St., Boston 16, Mass.

The subject matter of the book covers the recognition and proper emergency treatment of a wide variety of industrial injuries.

Color Bulletin Free

Did you know that correct colors can vastly improve the efficiency, safety, health and comfort of those in factories and offices? This and many other facts about color are revealed in the McDougall-Butler Co., Inc., bulletin "New Concepts of Color". Exposing the mysteries of the rapidly-developing science of "Color Engineering", already proven effective in many places where the eyes must be well treated or efficiency suffers, this new bulletin gives many startling facts about lighting, the importance of which is just being realized. Here are a very few of them:

That fatigue, mistakes, accidents and irritability are often caused by improper color conditions . . . while the persons affected do not know the cause.

That soft blue walls in one factory have improved work to a considerable degree and lessened the need for lengthy rest periods and "space gazing". That too-bright walls are nearly as hard on the eyes (and the nerves) as too-dingy ones.

That correct colors in interiors of mental and other institutions have shown a definite therapeutic value.

That one large office improved its lighting conditions 275%, as shown by a G. E. light meter, through modern paint styling!

Reading this bulletin, you may note the surprising number of "wrongs" in interior lighting that are easily "painted out of the picture" by the right coloring. Your heating bill, for example, can be cut by a substantial percentage by the correct color paint on radiators! The difference in efficiency, too, is pointed out where working areas are brighter than their surroundings, a factor little recognized.

These and many other questions concerning proper lighting through proper color schemes, with photographs to show the startling results in actual cases, are answered in the bulletin.

"Color Engineering", states McDougall-Butler, is not simply in the realm of the artistic. It is an intensely practical science, and a fast-budding one which draws on the fields of physiological optics, psychiatry and psychology . . . and has so far given significant promise of far-reaching possibilities wherever people must work and live in health, safety, comfort and mental balance.

Copies of "New Concepts of Color" may be had by writing McDougall-Butler Co., Inc., Buffalo 5, N. Y.

Color Harmony with Red

The Eagle Printing Ink Co., Division of General Printing Ink Corp., has issued the 18th folder in its color facts series.

This interesting and useful folder, titled "Color Harmony with Red", shows a variety of techniques and five color schemes using red as a key color. The combinations presented are practical and therefore suggest a wide variety of application.

A copy of "Color Harmony With Red" is yours for the asking. Address your request to the Eagle office at 100 Sixth Ave., New York 13, N. Y.

How Movies Help Explain Industrial Operations

"Movies Go to Work," a booklet giving industry the reasons for adopting motion pictures as a management tool and telling what steps to take to "get going, and keep going, right," is announced by Bell & Howell Co., Chicago pioneer producers of motion picture equipment. It is ready for distribution, at no charge, to industrial plants, sales organizations or others.

The booklet is divided into five chapter headings: "Training Salesmen;" "Selling Your Product;" "Increasing Production;" "Improving Personnel Relations;" and, "Interpreting Your Material." Under the latter heading, the assistance of Bell & Howell's nation-wide group of factory-trained special representatives in selecting

for speedy low-cost printing

use NAZ-DAR *Silk Screen Plates*

★ The MODERN method of applying decorative designs, lettering and trade marks. Provides absolute UNIFORMITY, SPEED and LOW-COST. You can apply on any surface.

NAZ-DAR Silk Screen Plates have played an important part in war work, being used to produce lettering or sharp detail on many types of surfaces, such as radio dials, airplane dials, instrument panels, chassis, boxes, clothing, etc.

We maintain a complete service for the trade and can supply you with any type of Silk Screen Plate needed, as well as Silk Screen Inks and Lacquers. All production men should investigate the application of Silk Screen Stencils to their production problem.

★ Write Department 10-45 for information on current and post-war printing problems.

Naz-dar Company

469-483 MILWAUKEE AVE., CHICAGO 10, ILL.

Mac's Fashion Bleach

WILL BLEACH ALL KINDS OF WOOD

MAC'S FAMOUS FASHION BLEACH is now available for bleaching all kinds of wood including mahogany the most difficult of woods to bleach. It dries overnight to a definite bleached effect ready to sand and ready for the regular finishing schedule. It can also be applied by spray using a GLASS container. Samples furnished on request.

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

7430 STATE ROAD **PHILADELPHIA 36, PA.**

commercial production facilities for script-writing assistance, technical aid in actual shooting and other film production work is offered.

Copies of the booklet may be obtained by addressing requests to Bell & Howell Co., 7100 McCormick Rd., Chicago 45, Ill.

New Wipe-Off Metalprep Bulletin Available

The Neilson Chemical Co., 6564 Benson St., Detroit 7, Mich., has issued a new bulletin which describes in detail and illustrates the various applications of "Wipe-Off Metalprep", a "Prep" product.

Wipe-Off Metalprep is a rust-remover and metal cleaner which insures an excellent bond between metal and paint. It is used in preparing iron, steel, aluminum, terneplate, galvaneal, galvanized iron, etc., for paint. It removes oil and grease, destroys rust and rusting agents, and etches the metal. It is non-toxic and non-inflammable.

By employing the manual type of operation, it is well suited for bulky assemblies, such as bus bodies, commercial trailers, multiple deep-freeze lockers and other items that cannot be dipped in tanks or treated in any other manner. The cleaning can be done from a bucket, or on a bench, floor or table.

Bulletin on Handling and Transferring Materials

One of the simplest, most effective methods for handling materials and manufactured products economically and safely is outlined in "Industrial Logistics", a 12-page, illustrated booklet issued by The Elwell-Parker Electric Co., Cleveland, Ohio.

Industrial Logistics effects savings through using the correct type of containers; assembling standarized sizes of the individual containers in master unit loads on pallets or skids, and then transporting them by means of power industrial trucks. Instead of handling a few pounds at a time, manually, the principle is to handle many pounds, or tons, mechanically at one time.

The booklet emphasizes the fact that handling operations greatly increase costs of an article while adding little to its value. Profits in the future will depend to a greater degree upon management's ability to avoid or squeeze the cost of waste out of production and distribution. As compared with many other elements of costs, load transportation offers the greatest opportunity for effecting economies.

Zinc Chromate Primer

ONE PAINT pigment that has emerged from the war with a wealth of experience back of it, to assure its widespread use in peacetime metal primers, is zinc chromate. The extent to which this pigment was used in supplying the necessary corrosion resistance to practically all types of metal fighting equipment has resulted in an enviable record of performance.

In the field of non-ferrous metals —aluminum and magnesium alloys —zinc chromate primer was used almost exclusively. All types of Army and Navy aircraft were primed with zinc chromate, the Navy alone priming about 15,000 planes in a 2-year period. Judging from its performance on America's war aircraft, it is reasonable to assume that zinc chromate primer will be preferred for thousands of peacetime transport planes of the future.

Perhaps the largest wartime use for zinc chromate primers has been on iron and steel—in particular on the ships of the Navy and Maritime Commission. Zinc chromate was used as the primer for all ships built in the last three years. Zinc chromate primer was also used on tanks, trucks, jeeps and on many other pieces of equipment where it served most effectively in retarding rust and corrosion.—*Paint Progress.*

O. A. BOTH CORP. of 114 Pearl St., Boston, Mass.

Originators of "Puritan Silver & Chrome Pastes" is now in a position to make immediate deliveries on any quantity of GOLD BRONZE for Spraying, Coating, Baking and Lacquer work, in any FINENESS. —Adv.

GOOD NEWS

for Industrial Finishers

The New, Patented

SUNBRITE METALLIC PASTE PIGMENTS

SUNBRITE

Patent Number 2,353,058

AVAILABLE for *Immediate Shipment*

SUNBRIGHT provides a Smoother and Brighter finish for all kinds of metal products . . . and costs no more than the regular Bronze Powders. Available in all metallic shades. Covers more square feet per gallon — a better finish — AT NO EXTRA COST.

SUNBRITE Manufacturing Co.,
formerly The Mitchell-Mayer Co.,
3506 Market St. ST. LOUIS 3, MO.

I. C. D. FORMULA NINE

NON-INFLAMMABLE « *wax free* REMOVER »

for paint, varnish, lacquer, baked enamel, adhesives

EASY TO APPLY—NO AFTER-CLEANING

ORDER TRIAL GALLON AT DRUM PRICE

I. C. D. FORMULA 9 is the standard of safety and quality . . can be sprayed or brushed . . doesn't raise grain nor discolor . . quickly removes all kinds of finishes and coatings . . costs less to use . . saves time, labor and material.

SPECIALTY COATINGS—I. C. D. Labs. have specialized in the formulation and manufacture of non-inflammable coatings and substitute finishes. If you have a tough coating or finishing problem send in your specifications, finishing schedule and requirements. Immediate action and a prompt reply promised.

INDUSTRIAL CHEMICAL DEVELOPMENT CORP.
347 MADISON AVE. NEW YORK 17, N. Y.

Industrial FINISHING

Distributed monthly to finishing room and paint shop foremen, production superintendents and company officials of metal-working, woodworking and miscellaneous industrial plants where production cleaning and finishing are major operations in parts and products manufacture.

•

Published the 18th of each month by
PRACTICAL PUBLICATIONS, Inc.
1142 N. Meridian St., Indianapolis 4, Ind.
Telephone.....Riley 6771

•

President.....W. H. Rohr
Vice-President.....E. A. Dosch
Secretary-Treasurer.....R. E. Suits

•

Subscription Rates Per Year
U. S. and Possessions.....$2.00
Canada and Foreign Countries.....$3.00
(No subscription solicitors are employed)

Editorial

Educational Courses in Product Painting, etc.

Fortunately for all industries that make or use paints, varnishes and lacquers, more reputable educational institutions are offering practical courses of study that deal directly with the use of protective and decorative coatings in product manufacturing. Among others, we have in mind, the New York University at New York City. It is offering four important courses in surface technology and a forum on the subject.

Five years ago New York University's College of Engineering initiated a specialized program in surface finishes. In the spring of 1945, the manpower situation became so critical that there was an urgent need for upgrading of men and women already employed in the field of surface technology. At the request and with the cooperation of the New York Paint, Varnish and Lacquer Association, the College of Engineering provided courses in the Fundamentals of paint, varnish and lacquer technology and specialized production finishes.

The enthusiasm with which these courses were received has resulted in their being made available in expanded form. Similarly, the regular 2-term graduate course in surface finishes is again being offered. In addition, for the first time, a surface technology forum will be organized to meet the need for an informal type of gathering to discuss a variety of topics in the field. Finally, the laboratories of the Department of Chemical Engineering will be made available for research in surface technology.

This program is being set up in continued cooperation with the New York Paint, Varnish and Lacquer Association. As in the past, many specialized topics will be presented by outstanding experts of the industry. The program will be under the direction of Dr. Myron A. Coler, Assistant Professor of Chemical Engineering, in the College of Engineering.

Each course calls for two or three hours at class, one day a

Look at That!

That is a slab of overspray deposit—over ¼ inch thick—peeled off the wall of a spray booth after a month's use. Note how smooth the back—that's because the walls were protected with

DOSTER BOOTH-KOTE

Booth-Kote—a pigmented paste of brushing consistency—enables you to clean and recoat a booth in less than 2 hours. It is so easy that a boy will enjoy the job.

JUST DAUB IT ON
and when loaded with paint and lacquer overspray—

JUST SCRAPE IT OFF
with a putty knife or scraper — as easy as peeling an orange.

One gallon is enough for an average booth, tunnel and fan blades — and should last a month.

Packed in 5 gallon pails at $1.25 per gal. F.O.B. Chicago. Mail your order today.

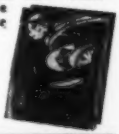
DOSTER AND CO., 4840 W. Superior St., Chicago 44, Ill.

Calibrated FACTS on WEARABILITY

Yours in Advance with the Taber Abraser

No need for guesswork in the testing of your own or competitor's products for wearability or resistance to surface abrasion. The Taber Abraser gives you the facts with scientific precision—yet the procedure is as practical as it is accurate. Eliminates time-consuming, expensive performance tests. Used by hundreds of manufacturers and research laboratories for testing surface wearing qualities of paints, lacquer, plastics, leather, rubber, paper, electrotypes, etc.

Write: Full details on the Taber Abraser and the Taber wear testing method described in new handbook. Write for your free copy.



TABER INSTRUMENT CORPORATION
111 IF Goundry Street North Tonawanda, N. Y.

The Taber Test *Proves* What Wears Best!

week for 15 weeks, and fees for each course range from $25 to about $58.00.

These courses and others offered by well rated schools and colleges throughout the country will be of tremenduous value in giving men a better understanding of fundamental knowledge and specific information about surface preparation before painting; also paint, varnish and lacquer application; and the drying of protective and decorative coatings applied to manufactured products made of wood, metal, fabrics, leather, fiber, plastic and other materials.

Practical Testing of Protective Coatings

★ Many protective and decorative coatings are disappointing to both the supplier and the user, because of the fact that they match the finisher's requirements in the laboratory, but fail on the job itself. These failures, in my opinion, are due to the fact that the laboratory tests on the coatings, did not thoroughly reproduce the actual job.

If laboratory tests do not fully take into account the nature of the material to be coated, its surface preparation, the method of applying the coating, and the conditions existing after application, then the laboratory evaluation will not accurately represent the performance of the coating on the job. For example, a finish tested for nonsagging by applying it to a small tin panel with a 1-in. brush might stand up well. However, after application to a large wall, with a painter's 5-in. brush, it may completely surprise its creator by running badly.

Then again, the true value of a baking enamel would be difficult to determine if the oven in which it were put to trial differed substantially in constancy, speed and concentration of heating from that of the consumer's finishing oven.

To the finisher, the success of a coating in the laboratory is of small consequence. His primary desire is to be sure of the success of the coating on his job. Laboratory men should check as closely as possible the conditions to be met by the finish in practice. Adherence to this point will not only reduce wasteful research but will also result in a greater number of satisfied consumers.—S. W. BRAVERMAN.

Your Reputation for Quality Products

★ Continuous high quality in the painting of manufactured products can be obtained, but the will to achieve it must be strong and the effort to maintain it must never slacken. The preparation of surfaces to be painted, the application of a dependable uniform coating, and the proper drying of the paint coating must be planned, executed and supervised with the matter of high quality uppermost in mind at all times. Leave no room for the attitude: "It's good enough; pass it".

Management's job calls for constant, constructive efforts to maintain a high quality product, with

★ Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate real thought on a live subject. The Editor welcomes guest editorials and pays for those that are published.

ILLBRONZE
BRAND

BRONZE POWDERS NOW AVAILABLE

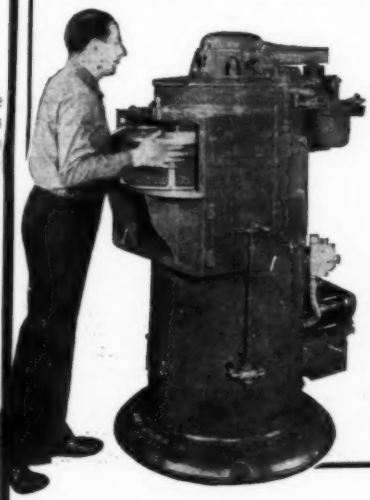
We can now supply users of metallic finishes with our many special shades in various textures. Our many friends who have used our pre-war line of special alloys and colored metallic finishes can look again to ILLBRONZE with confidence for their future needs. Right now we can furnish limited quantities of fine Pale and Rich Gold Lining Powders, Silver Fixture and Butler Silver. Unrestricted quantities of ILLBRONZE Brand Aluminum Powders and Pastes can also be obtained.

Inquire for lowest prices. Also samples, if desired.

ILLINOIS BRONZE POWDER CO., INC.

Dept. P, 2015-29 South Clark Street CHICAGO 16

INCREASED PRODUCTION AT A LOWER COST



ON ESSENTIAL SMALL PARTS

30 loads per hour can be processed in Lacquer or Enamel with our No. R-200 up to 75 lbs. to a load.

RONCI "SPEEDIP" WHIRL ENAMELER AND COMBINED WASHER AND DRYER

A combination dipping-whirling machine for coating large quantities of small parts. All operations are within the machine. Parts are dipped into coating material, raised and whirled. No additional tanks required. No cleaning when changing colors. Cuts costs and saves up to 10% of material.

Washer and Dryer operates on same principles.

Write for further information or submit samples to be coated.

RONCI MACHINE CO.

2 Atlantic Blvd. Centredale 11, R. I.

an enduring paint job or finish to serve as a protective and decorative coating.

Successful leaders in industry are those that have achieved a reputation for high quality products, at a cost that is consistent with the selling price. It costs more in the beginning to put on a protective coating of high quality. However, the foremost manufacturer in any industry is the one who produces the best quality products, with a selling price that is in keeping with the product.

To achieve high quality in production, your raw materials and equipment must be right. Make your selections of materials and equipment carefully. Insist on certain definite specifications pertaining to quality. Another matter of importance is to be doubly sure that the supplier knows just what you require. If the supplier knows your products and facilities for manufacturing, he is in better position to serve you intelligently and satisfactorily. — CHAS. W. HARDY.

Reconversion— Do it Right

★ Prior to the war, furniture manufacturers were always talking about what their objective would be. First they would put in a streamline office system whereby orders coming in would be given an extra push instead of laying around until some clerk got to them. Second, they would reorganize their factory routine so that there would be no necessity for maintaining a large dead stock, laying around in anticipation of orders. Third, they would check into many loose threads which are costly, such as material wastage, obsolete machinery and equipment of various types that had outlived its usefulness.

With the beginning of the war and all through hostilities, the fact that the above mòves were past the talking stage struck home more and more when manufacturers faced a great shortage in manpower. Overtime helped only to add to the cost of production, because in most plants machinery had no rest and broke down frequently, causing delays in which the value gained by overtime production was turned into a loss.

As a result, management awakened and went into the blueprint stage for a complete reconversion of its facilities, as soon as possible after the war's end.

A leading manufacturer hired several engineers and started a research department for delving into the plastic field for possible plastic fixtures to use in his line. These men were allowed a wide latitude; they were not rushed to death, and they came through.

This manufacturer also had engineers lay out a conveyorized system for wood finishing and metal finishing which, when put into action, will be a whiz. He is having one of the country's largest business machine houses handle the office streamlining with new equipment for issuing work schedules and transmitting orders received into orders en route.

I am not delving into this system in too much detail, but am citing it as an example of the type of aggressive leadership that manufacturers need to keep their business functioning in a field where competition will be white hot within six months.

Unless you are qualified, call in competent engineers who know their business. They will explain

Drying Time Reduced... 76 2/3%

with

BURDETT *(The Original)*

INFRA-RED GAS BURNERS

Indirect-fired 30 minutes @ 200° F.
Burdett Infra-Red time 7 minutes @ 200° F.

That is from the records of the Canadian Top & Body Corp., which is further proof of the remarkable results that pyramid into revolutionary savings in labor, material and fuel, and the elimination of rejects. This user further testifies that the heat contained in the parts from processing the prime coat was sufficient to force dry the finishing coat—a complete operation eliminated! Get the facts on Burdett "Infra-Red" Gas Burners in connection with your heat processing.

21 NORTH LOOMIS STREET, CHICAGO 7, ILL.

BURDETT MANUFACTURING CO.
Infra Red Gas Burners

BOOKS On Finishing Available

"CHEMICAL FORMULARY" (Vol. VII)	$6.00
"THE MIXING OF COLORS AND PAINTS"	2.00
"FINISHING METAL PRODUCTS"	3.50
"LACQUER AND SYNTHETIC ENAMEL FINISHES"	5.50
"SPRAY PAINTING—Industrial and Commercial"	1.50
"PRACTICAL FURNITURE FINISHING" (112 pages)	1.25
"FURNITURE FINISHING" (543 Pages)	4.00
"NATIONAL PAINT DICTIONARY"	7.50
"PYROXALIN ENAMELS AND LACQUER" (253 pages)	3.50
"PAINT LABORATORY NOTEBOOK"	2.75
"GRAINING—ANCIENT AND MODERN" (224 pages)	5.00
"SILK SCREEN METHODS OF PRODUCTION"	3.00
"PLASTICS—SCIENTIFIC AND TECHNICAL"	6.50

Cash Must Accompany Orders

INDUSTRIAL FINISHING

1142 N. MERIDIAN ST., INDIANAPOLIS 4, INDIANA

OLD FRIENDS ARE BEST!

Three generations of wood finishers have used SAN-ITAI-RIE FILLER. It still is best for all defects in wood.

SAN-ITAI-RIE FILLER CO.
DIVISION OF G. J. Liebich Co. CHICAGO 22, ILLINOIS

NALCO
Infra-Red Ray Lamps

Best for Infra-Red Ray Baking and Drying

Carbon Filament Lamps, service proven, available in Inside-Silvered (self-reflecting) or in Clear Glass types. Write for details

North American Elec. Lamp Co.
1030 Tyler St. St. Louis 6, Missouri

conveyor systems and other equipment to you. They will contact paint manufacturers and submit materials up to the second. For your office system, do not hesitate to call in the best talent in the field. But, don't relay your work to some minor key man to follow through. Do it yourself, until you are sure everything is okay, and then see that those in charge of your new type production system are trained and skilled before you relax and go into the night club, bridge and golf field again.—NORMAN ABRAMOVICE.

Wesley Cassell Joins Lea

The Lea Mfg. Co., Waterbury, Conn., has appointed Wesley L. Cassell to its Technical Sales Staff. He will bring to his new duties many years of experience in the technical phases of metal finishing.

Popular Stylish Colors For 1946

Colors of Freedom, commemorating the triumphant theme of Victory and Peace, are an important feature of the advance collection for the Spring of 1946, as issued by The Textile Color Card Association to its members. These brilliant hues are symbolic of a brighter and happier world, in which color will provide increased inspiration for the fashion arts. This group comprises Hope Turquoise, Pacifc Lime, Orange Glory, Peace Blue, Brave Red, Triumph Gold, Gallant Coral, Victorious Blue, Valor Rose and Heroic Green. In addition to being smart, these colors will be newly contrasted with neutral shades.

Important neutral tones include Champagne Blond and Cream Caramel. Pearl Oyster and Flotilla Grey are cited as other smart neutrals. In the yellow and golden gamme are the soft Banana Yellow and the mellowed Amber Honey.

Wide fashion acceptance is anticipated for the green family. Very different in this range and especially interesting is Plaza Green, a lively medium version inclining to the yellowish tonality. Blending with this shade is the lighter Cool Green. Lime Jade and

new Sun Olive are other attractive Spring renditions of green. Aqua-dew and Seaway Green interpret the bluer type of green.

Particularly exciting in the pink and rose gamme are two intriguing tones of Chinese inspiration, called Mandarin Rose and Celestial Pink.

An animated new feeling is revealed in the blues for Spring, as expressed in California Blue and the spirited Midship Blue of the royal family. Exotic Turquoise and China Peacock are unusual Oriental blues.

New Fire Hazards

A DIVISION of applied research to extend the public service provided commerce and industry without charge has been established by the National Board of Fire Underwriters, 85 John St., New York 7, N. Y., and will be operated under the general supervision of the Board's Committee on Fire Prevention and Engineering Standards and its long-established Engineering Department.

The scope of this new division will include problems connected with fire and related hazards of industry and commerce, materials of construction and the method of their use, and protective methods in safe-guarding life and property. The Board's action is another recognition of the rapid technological advancement in industry which requires progressive steps in safeguarding new processes against loss of life and property from fires. The Engineering Department has for many years performed services of this kind for the public as part of its general program.—N.B.F.U.

PAINT BAKING PROBLEM SOLVED
on the "Double Thick"

How Jensen Ingenuity Helped Koppers Company Lick Tough Job
TWICE as thick at bottom as at top is the metal of these 110 lb. rocket bomb casings. The paint baking problem at Koppers was to achieve *same temperature top and bottom at time cases leave baking oven . . .* so paint color would not vary. To solve this problem, Jensen designed and engineered a special infra-red oven with a unique lamp arrangement. **Result:** *uniform color over all. Write Jensen about YOUR problem today!*

JENSEN SPECIALTIES, Inc. JENSEN 9331 FREELAND DETROIT 27, MICH.
DESIGNERS and BUILDERS of "DUAL HEAT" INFRA-RED OVENS • STANDARD and SPECIAL CONVEYORS

Random Comment on the Industrial Scene

(Continued from page 10)

For example, a revolutionary safety factor is provided, making it possible to refuel commercial planes in the air during long-range operations.

* * *

Tung Oil Prospects—Only a few years ago, the trickle of tung oil produced in this country was considered too unimportant for serious consideration. But the Department of Commerce reminds us that the United States should be able to market 8,500,000-lbs. of this valuable product during the current year.

In addition to the fact that the American variety is odorless, several other advantages over the Chinese oil are emphasized. Our material is free from acid, almost colorless, and neutral in reaction. Although tung oil has been used chiefly in the manufacture of paints, and varnishes, many new applications are being perfected—for example, in coatings for food containers.

* * *

"Dumping" Ahead? — Many small manufacturers of electrical equipment are expressing alarm over the prospective flood of government surplus stocks of their products. Although certain specialty producers will undoubtedly be hard hit, the overall picture does not shape up too darkly, in the opinion of authoritative spokesmen of the industry.

An official of Westinghouse recently observed that the return of surplus government equipment to the open market has thus far had little effect on the price structure or production of electrical equipment made during the war by this company.

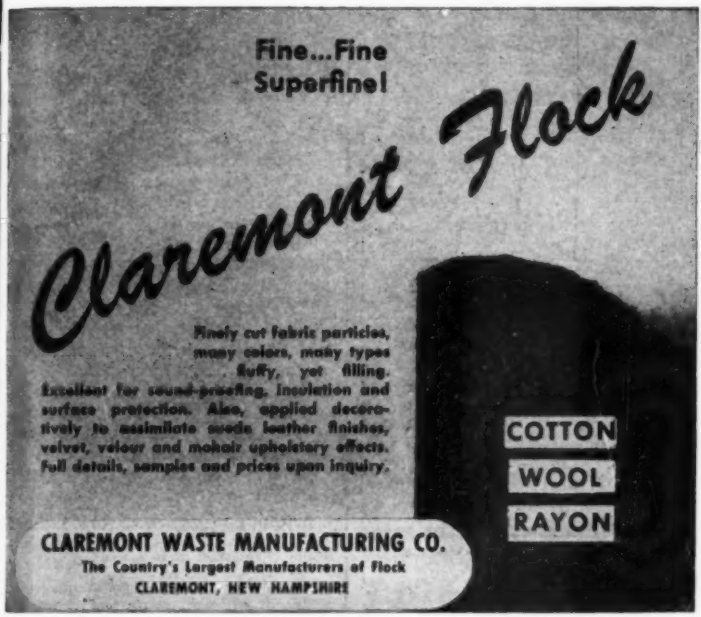
"Much of this merchandise," reports the anonymous observer, "has been and continues to be for highly specialized plants—such as steel, high-octane gasoline, synthetic rubber and chemical plants. There is no way of determining now what effect the resale of small transformers, motor generator sets, and other electrical equipment that have wide application for industrial use might have on the market."

For Readers — Subscribers to INDUSTRIAL FINISHING are reminded that free tickets to leading radio

LACKEROFF SOAP
A remarkable new liquid hand soap that actually removes LACQUER, SYNTHETICS, STAINS, ETC., yet leaves hands soft. Saves thinner.
POTTER PAINT CO., Cortland, N. Y.

DAVIDSON ENGINEERING SERVICE
Consultant Engineers
Conveyor Systems Labor Saving Devices
Plant Layout
Designers of Special Equipment
Address: Box 2941
Winston-Salem, N. C.

BLANCHIT
(Trade-Mark Reg.)
U. S. and Foreign Patents
WOOD BLEACH
Accepted Standard
For Furniture and Cabinet Makers
Also Interior Woodwork Recoloring
L. R. van Allen Co.
Patent Licensee
CHICAGO 54


Fine...Fine
Superfine!
Claremont Flock
Finely cut fabric particles, many colors, many types fluffy, yet filling. Excellent for sound-proofing, insulation and surface protection. Also, applied decoratively to assimilate suede leather finishes, velvet, velour and mohair upholstery effects. Full details, samples and prices upon inquiry.
COTTON
WOOL
RAYON
CLAREMONT WASTE MANUFACTURING CO.
The Country's Largest Manufacturers of Flock
CLAREMONT, NEW HAMPSHIRE

broadcasts are available on request. When planning a trip to Manhattan, drop a line to: *Lawrence H. Singer, 130 West 86th Street, New York 24, N. Y.*

Among the cooperating sponsors are: Campbell's Soups ("Radio Reader's Digest") Pharmaco Inc. ("Double or Nothing"); and Gulf Oil Corp. ("We the People").

Receives Fifth Army-Navy Production Award

Men and women of the Thresher Varnish Co., Dayton, Ohio, have won for the fifth time, the Army-Navy Production Award for outstanding services in the production of war equipment. They have maintained a fine record and this fourth renewal is a mark of high achievement over a long period.

Reliance Offers New Service to the Trade

Mr. H. J. Eckhoff, who for over ten years, has been in the laboratory and research department of the Reliance Varnish Company of Louisville, Kentucky, has been transferred to the technical sales department. He will work in close cooperation with one of Reliance's most successful salesmen, Mr. George Gaston, whose territory is Indiana and parts of Illinois and Ohio.

This arrangement will assure the company's customers complete technical advice in the field. Conditions and requirements at the users' plants will be promptly surveyed and taken into account before any material or procedure is recommended. This arrangement will also permit close technical observation and supervision when new materials go into production.

POSITION AVAILABLE AS DIRECT FACTORY FIELD REPRESENTATIVE

Manufacturer of industrial equipment seeking services of man with practical experience in all types finishing and coating processes. Position requires individual with practical background involving good working knowledge of finishing materials and their application under present day methods. Ample training provided. Excellent opportunity for steady employment at attractive salary. Must be willing to travel. Interview can be arranged by submitting full information together with recent photograph to IF-236, care Industrial Finishing, Indianapolis 4.

MIRACLE

5 Gallon BLUE BOY Model

PAINT REJUVENATOR

Restores Paints, Lacquers, Enamel Products and Pigment Primers, to original consistency in 3 to 10 minutes without opening the can. Available for Round or Square 5-gallon cans. Explosion-proof electrical equipment if desired. Also other units from ¼-pint to 50-gallon drum capacity available. Originators of Paint Rejuvenating equipment—ten years—thousands of satisfied users.

Miracle Paint Rejuvenator Co.

127 E. 9TH STREET ST. PAUL, MINN.

New "Alcohol" Improves Finishing Materials

HARDER and quicker drying finishes are being made from a powerful explosive base. Pentaerythritol, when nitrated, has long been recognized as a super-high explosive. More recently it was found to improve both oils and resins for surface coating.

Pentaerythritol is a white powder, derived from two readily available chemicals, formaldehyde and acetaldehyde, and belongs to the alcohol family. "Polypentaerythritols," close chemical relatives, are formed in the manufacture of pentaerythritol and are usually present in the commercial product. The polypentas are more reactive; their presence as an impurity may be partially responsible for penta's valuable properties.

Although pentaerythritol had been used in industrial explosives and plasticizers, its big chance came early in the war when tung and perilla oils, imported from the Far East, were cut off. Quick-drying and hard-drying oils were essential for varnish, paint, enamel and printing ink, and every effort was made to improve drying properties and film characteristics of the slower and softer-drying domestic linseed and soybean oils.

One solution was a varnish resin, pentaerythritol ester gum, formed by the reaction of pentaerythritol and rosin acids and sold under the trade name "Pentalyn." This resin, when cooked with such oils as linseed and dehydrated castor, yields varnishes said to be suitable for replacing the tung-oil product in many uses. Modifications of "Pentalyn" resins are widely used in surface coatings. Pentaerythritol also finds application in a number of alkyd-resin protective coatings.

MODERN PAINT AND VARNISH PLANT

FOR SALE AT PUBLIC AUCTION

Wed., Nov. 7, 1945, AT 2:00 P. M.
Having purchased a Site for a new and larger plant

RELIANCE VARNISH COMPANY
LOUISVILLE, KENTUCKY

has authorized us to sell its land and buildings located at 915 E. Kentucky St. at ABSOLUTE AUCTION to the highest bidder on the above date ON THE PREMISES, Louisville, Ky. The lot is 215x172 ft. and main buildings have a gross floor area of about 29,500 Sq. Ft. with ample yard room for tanks and storage. Served by Louisville & Nashville R. R. Possession to be given sometime in 1947 when new buildings are completed with liberal rental to purchaser in the interim. TERMS will be reasonable and announced at sale or can be arranged by responsible bidder in advance. Plat and details on request.

I. SIDNEY JENKINS & CO., Realtors

Telephone WAbash 7321

506 W. Jefferson St. Louisville 2, Ky.

Substitution of pentaerythritol for part or all of the glycerine in a dry-type alkyd resin reportedly improves hardening properties and film characteristics.

Since the pentaerythritol resins reportedly add desirable qualities to tung-oil varnishes, they should remain valuable when tung oil is again available. Tung oil may be favored for some applications, but pentaerythritol oils seem in a more favorable price position. In 1940 the price of these reconstituted oils ranged from 11 to 15 cents per pound, compared with 18 to 25 cents for tung oil and the present price differential is even more marked.—*Industrial Bulletin.*

FROM STOCK & TO ORDER

WOOD TURNINGS

Balls—Beads—Handles—Wheels — Also

TUMBLE FINISHING

on your products.
Send sample for quotation.

NESBIT INDUSTRIES, INC.
1823 Milwaukee Ave., Chicago 47, Illinois

CONSULTANT FOR INDUSTRY
on
MOISTURE AND FUNGUS PROBLEMS

SEYMOUR C. HYMAN, CHEM. ENG.

For the duration of the war, Chief of Moisture and Fungus Proofing Section developing and applying tropic-proof materials for U. S. Army communications equipment. Now available to manufacturers and materials suppliers for consultation on protective coatings, insulation and choice of engineering materials.

P. O. BOX 111, LONG BRANCH, N. J.

Quality Control Testing Service

A quality control testing and research laboratory will be ready for operation on November 1, 1945 at the California, Mo., plant of Moniteau Mills, Inc.

The laboratory will be equipped and staffed by the United States Testing Co., Inc. and will conduct necessary tests to accurately control the quality of the materials through all stages of manufacture.

This trend, on the part of manufacturers to better serve quality minded consumers, has been brought about by many reasons, but probably the two greatest causes are the consumer movements now operating to force proper labeling, and the after math of producing on specification for the Government.

Corrosion Engineers to Meet in Kansas City, Mo., Next May

The National Association of Corrosion Engineers announces dates of May 7, 8 and 9 for its 1946 Annual Meeting and Convention, which will be held in Kansas City, Mo., with headquarters in the President Hotel. In addition to the technical programs covering the three days' sessions, there will be an exhibition of corrosion-resistant, corrosion-mitigation and various types of protective materials in the Main Arena of the Municipal Auditorium.

Technical sessions are scheduled for the same building, in the Little Theatre there, and in such additional space as may be required to accommodate the sectional and group meetings. The program as outlined includes papers on corrosion practices as developed in representative industries.

Misrepresentation Alleged of Certain "Plastic Paints"

According to the September 24, 1945 weekly letter of the National Paint, Varnish and Lacquer Association, Inc., the Federal Trade Commission has issued a complaint charging a manufacturer in Cleveland with misrepresenting properties and effectiveness of certain "plastic" paints and varnishes.

Complaint alleges that respondent's use of terms "plastic" and "plasti" in trade names, and the words "America's Largest Manufacturer of Plastic Paint" in advertisements, is misleading and deceptive, as his products are not plastics but are ordinary paints and varnishes, and he does not manufacture so-called "plastic" or other type paints or varnishes.

"Sunbrite" Misspelled in Advertisement

In advertisement appearing on page 127 of this issue, the word "Sunbrite" in firm name was inadvertently spelled incorrectly. The name should read "Sunbrite Manufacturing Co." This is the new name of the former Mitchell-Mayer Co., St. Louis, Mo., as noted in the ad. The publishers regret this error, and take this means of announcing the correction since some sheets had already been run through the press.

Classified Advertising

Rate: 50 cents per line per insertion—minimum $1.50

FINISHING ENGINEER.

A graduate engineer with ten years' practical experience in the finishing industry is looking for a large user of finishing materials who wishes to reduce costs, improve quality and speed production in his finishing department during the critical conversion and manufacturing period ahead. Inquiries invited. Address IF-218, care Industrial Finishing.

SUPERINTENDENT PRODUCTION PAINTING.

Thoroughly experienced in painting in mass production. Well versed in surface treatment of light metals. Familiar with layout, cleaning, masking, control methods, cost and safety. Ten years' experience in technical development in paints and sales service work. Will consider staff or sales work. Address IF-237, care Industrial Finishing.

PAINT AND PRODUCTION SUPERVISOR.

Eighteen years' experience on all types of finishes. Thorough experience in spray painting, dip lines, color matching, graining, mass production. Able to train and handle any number of men. Can handle supervision or trouble shooting. Experience in metal furniture, automotive. Go anywhere. Prefer Los Angeles or Cleveland districts. Address IF-238, care Industrial Finishing.

WANTED.

Industrial Finishing Salesman, familiar with Central and Northern Illinois territory. Salary and Bonus. Have established trade of approximately $50,000.00 annual sales, all civilian use. All replies held confidential. WABASH PRODUCTS COMPANY, Terre Haute, Ind.

INDUSTRIAL CHEMIST WANTED.

College graduate to take charge of development work and application of interior and exterior coatings for steel barrels. Location: Midwest. Address IF-239, care Industrial Finishing.

CHEMISTS (2)

One experienced in formulating Synthetic Baking and Air Drying Enamels for product finishing. One experienced in formulating all types of Industrial Lacquers. Reply stating age, education and experience. Benjamin Franklin Paint & Varnish Co., 4820 Langdon St., Philadelphia 24, Pa.

STAIN FORMULATOR.

Well-known established manufacturer wants man to take full charge of stain production. Exceptional opportunity. Permanent. All correspondence confidential. Our employees are informed as to this advertisement. Address IF-240, care Industrial Finishing.

EXPERIENCED PAINT CHEMIST

Wanted, by well-known Chicago manufacturer. One sufficiently experienced in production to direct same. Must have background in formulating automotive undercoats, blacks, synthetic enamels, also specialy coatings such as cements, paper coatings, hot lacquers, leather coatings, metal and wood lacquers, sealers, etc. A generous compensation plan to right man interested in growing financially as well as successfully with an aggressive company. Give full particulars, availability and salary desired. Address IF-241, care Industrial Finishing.

VARNISH FORMULATOR

Wanted. Excellent opportunity for right man. Reply in complete detail. Address IF-242, care Industrial Finishing.

CHEMISTS WANTED.

Trained and experienced men wanted for Surface Coatings Group of the Technical Service and Development Division of the Stamford, Connecticut Laboratories of the American Cyanamid Company.

SALES ENGINEERS WANTED.

Established company requires one or more additional sales engineers in their rapidly expanding oven department. Applicant must have had thorough experience designing and selling ovens. Give complete educational and experience history, state salary expected and send recent photograph. Address IF-243, care Industrial Finishing.

TWO SALESMEN WANTED.

Eastern manufacturer of complete line of Industrial Finishes has territory open in New Jersey and eastern Pennsylvania, also territory in New England. Prefer men who have practical experience in both metal and furniture finishing. Technical experience an asset, but not an essential. The man who applies must have good references and a successful record. Established business in both territories. Our own men know of this advertisement. Direct your reply with full details, to IF-227, care Industrial Finishing.

REPRESENTATIVES WANTED.

Openings are available in Ohio, Michigan, Kentucky and Indiana for representatives interested in a line of Industrial Finishes for wood and metal, including lacquers and primers, clear and pigmented; fillers and stains. For interview, address IF-244, care Industrial Finishing.

FOR SALE.

Ransohoff Conveyor Type Gas Fired Washing, Rinsing and Drying Machine, 18"x48" Opening, 32' long. Used six months preparing steel cartridge cases for painting, by applying Oakite 86. AMERICAN FIXTURE AND MFG. COMPANY, 2300 Locust Blvd., St. Louis 3, Mo.

WANTED

By manufacturer, Roller Mills, Pony Mixers, also Lab. Mill. Write BOX 319, 217-7th Ave., New York, N. Y.

WANTED TO BUY.

Roller Coating machine that could be used for lacquering 24" wide material. Address P. O. BOX 469, New Britain, Conn.

NEW LINES WANTED.

Modern Sales and Service organization in Philadelphia, having unusual Industrial clientele now specializing in Paint Spray Equipment, Air Compressors, and kindred items desires to increase their lines of merchandise. HOVEY SPRAY EQUIPMENT CO.

FORBES BAKING PRIMER

76-55-gal. drums Forbes Dark Grey Baking Primer @ 40c
in excellent condition. All or part. RAND CHEMICAL PRODUCTS CO., 2335 So. Mich. Ave., Chicago 16, Phone CALumet 2866-67.

SOLVENTS RECLAIMED

Dirty thinners - solvents - degreasing residues reclaimed by the drum or carload.
CHEMICALS RECOVERY SERVICE, INC.
Box 335 Elyria, Ohio

SALESMEN WANTED

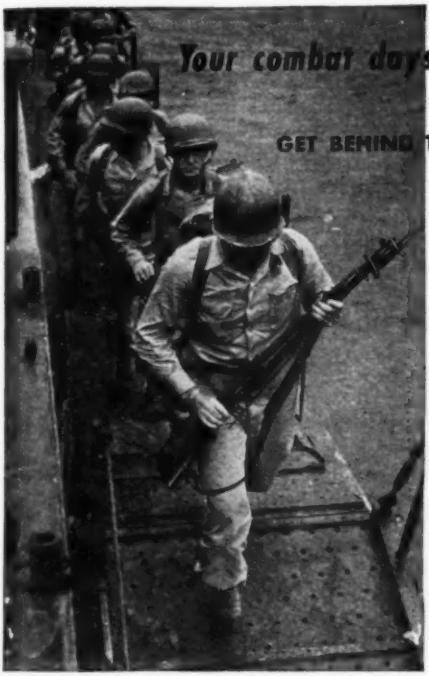
Two, experienced, for Ohio. Both territories have sizeable volume established business. Must have good practical and technical knowledge, and be strictly top notch. Real proposition to the right men. Address IF-245, care Industrial Finishing Magazine, Indianapolis 4, Indiana.

PAINT OVERSPRAY

From water curtained spray booths
Will purchase or reclaim

MECKLER CHEMICAL CORPORATION
3748 E. 91st St.
Cleveland, Ohio

MISKELLA
INFRA-RED OVENS & APPLIANCES
INSULATED · REFLECTIVE · SECTIONAL
BY
INFRA-RED ENGINEERS & DESIGNERS



Your combat days are not over!

GET BEHIND THE VICTORY LOAN!

There's plenty of action ahead for fast-thinking industrial leaders in the new Victory Loan! Your Victory drive is important because:

EVERY VICTORY BOND HELPS to Bring our boys home—and give the best medical care to our wounded heroes!

THE NEW F. D. ROOSEVELT MEMORIAL $200 BOND

Urge employees to buy the new Franklin Delano Roosevelt Memorial Bond through your Payroll Savings Plan! Better than ready cash, Victory Bonds are industry's "Thanks" to our returning heroes!

VICTORY LOAN

START YOUR VICTORY DRIVE TODAY!

Every Victory Bond aids in assuring peacetime prosperity for our veterans, our nation, your employees—and your own industry!

The Treasury Department acknowledges with appreciation the publication of this message by

INDUSTRIAL FINISHING

This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and War Advertising Council

★ ★

Index to Advertisers

Advance Paint Co.....Front Cover
American Chemical Paint Co..... 41
American-Marietta Co. 111
Arco Co., The..... 30

Baughn Chemical Products Co..... 9
Beckwith-Chandler Co..... 55
Berry Brothers 73
Binks Mfg. Co.....2-3
Both Corp., O. A.....126
Breuer Electric Mfg. Co..... 7
Burdett Mfg. Co.....133

Celanese Chemical Corp.....12-13
Cellusuede Products, Inc..... 20
Claremont Waste Mfg. Co.....137
Classified Advertising.....141
Clinton Company, The..... 71
Commercial Solvents Corp.....101
Cover, H. S.....123

Davidson Engineering Service.....136
Day & Co., James B.....105
Despatch Oven Co..... 75
Detrex Corp..... 92
Detro Sales Co..... 10
DeVilbiss Co., The.....24-25
Dolan & Co., V. J..... 7
Doster & Co.....129
DuPont de Nemours & Co., E. I. 76-77
Duralac Chemical Corp..... 93

Eclipse Air Brush Co..... 81
Egyptian Lacquer Mfg. Co.....115
Electric Sprayit Co..... 87
Enthone Co., The..... 1

Ferro Enamel Corp..... 67
Finishine Labs., Inc.....107

George Co., The P. D..... 26
Glidden Co., The..... 21
Grand Rapids Varnish Corp..... 95

Hercules Powder Co.....22-23
Hilo Varnish Co.....109
Horn Company, A. C..... 28

Illinois Bronze Powder Co.....131
India Paint & Lacquer Co..... 83
Industrial Chemical Development Corp.....127
Industrial Tape Corp.....16-17
Industrial Oven Engineering Co..... 31
Infra-Red Engineers & Designers....142

Jensen Specialties, Inc.....135
Johnson & Son, S. C..... 85

Kirk & Blum Mfg. Co.....Back Cover
Koch Sons, Inc., George..... 51

Lawrence-McFadden Co.....125
Liebich Co., G. J.....134
Lilly Varnish Co.....14-15
Lowe Brothers..... 34

Maas & Waldstein Co..... 32
MacDermid, Inc. 65
Mahon Co., The R. C..... 69
Mearl Corporation, The..... 59
Minn. Mining & Mfg. Co..... 27
Miracle Paint Rejuvenator Co.....124
Mitchell-Bradford Chem. Co..... 53
Murphy Finishes Corp..... 61
Maz-Dar Co.....125

Nesbit Industries, Inc.....140
New York Woodfinishers Supply Co..... 78
North Amer. Elec. Lamp Co.....134

Oakite Products, Inc..... 47
O'Brien Varnish Co.....113

Paasche Airbrush Co..... 35
Penetray Corp..... 33
Perfection Paint & Color Co..... 8
Pittsburgh Plate Glass Co.....18-19
Potter Paint Co.....136

Randolph Finishing Products Co..... 45
Rayon Processing Co. of R. I..... 89
Reliance Varnish Co.....4-139
Rockford Varnish Co..... 91
Ronci Machine Co.....131
Roxalin Flexible Finishes, Inc. .....Second Cover

Schaefer Varnish Co..... 97
Standard Industrial Products, Inc..140
Standard Varnish Works..... 87
Sterling Tool Products Co...Third Cover
Stille-Young Corp., The.....119
Sun Oil Co..... 29
Sunbrite Mfg. Co.....137

Taber Instrument Corp.....129
Texon Industrial Corp..... 43

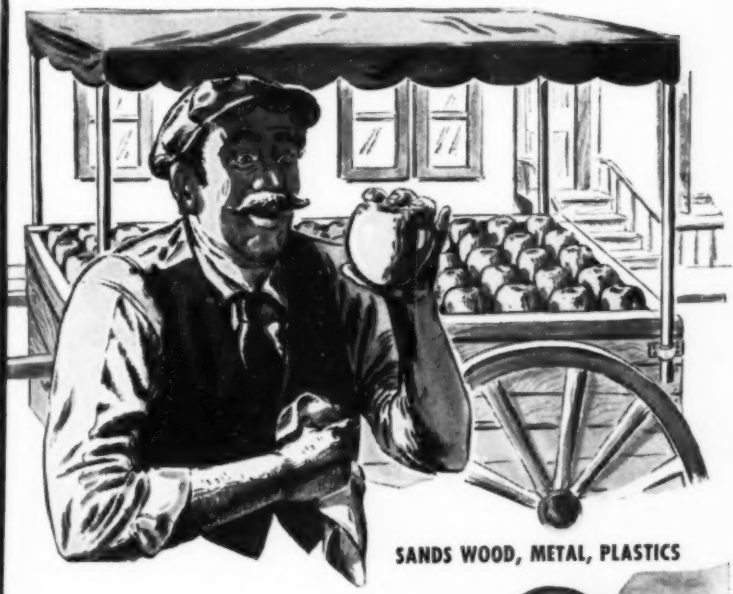
United Lacquer Mfg. Corp..... 99

Valvoline Oil Co..... 3
Van Allen Co., L. R.....134
Varnish Products Co.....121
Victory Loan Drive.....143

Walker Co., H. V..... 63
Wyandotte Chemicals Corp..... 39

Zapon Division—Atlas Powder Co.. 11

IT'S THE *FINISH* THAT SELLS!



SANDS WOOD, METAL, PLASTICS

The apple man knows the value of a good finish. Shiny, well-polished apples bring twice the ordinary "store" price! A smooth, beautiful finish will help sell *your* product, too!

Get a perfect finish now with the Sterling 1000 Portable Electric Sander. It produces an extra-smooth, uniform surface in less than one-third the time taken by slow, tiresome hand sanding. The Sterling Sander is vibrationless, light-weight, simple to operate. Sands (coarse or fine), laps, polishes. You will find it saves you time and money.

Ask your distributor for a demonstration or write: STERLING TOOL PRODUCTS COMPANY, 365 EAST OHIO STREET, CHICAGO 11, ILLINOIS.

STERLING
1000
PORTABLE ELECTRIC
SANDER

No matter what kind of oven your operation may require, Kirk & Blum Oven Engineers can provide an individually designed installation guaranteed to give you better and faster finishing jobs, with reduced fuel consumption, less manpower, and *maximum safety*.

Kirk & Blum specialize in *all* types . . . continuous conveyor drying and baking ovens, core baking ovens, laboratory ovens, etc.

In leading plants everywhere, ovens designed and installed by Kirk & Blum are setting outstanding records for efficiency and economy. .

Get *all* the facts before proceeding in this important field. Write now for informative booklet "Industrial Ovens". Address The Kirk & Blum Mfg. Co., 2831 Spring Grove Avenue, Cincinnati 25, Ohio.

KIRK AND BLUM

AN ORGANIZATION OF ENGINEERS AND MECHANICS

, ovens
& Blum
for effi-

eding in
for in-
Ovens".
Co., 2831
nati 25,